Pioneer sound.vision.soul

Service Manual

ORDER NO.
RRV2503

STEREO CD/VCD CASSETTE DECK RECEIVER

XR-VS200
XR-VS200SW

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model		Power Requirement	The voltage can be converted by the following method.
	XR-VS200	XR-VS200SW		
DBDXJ	○	—	AC110-127V/220-230V/240V	With the voltage selector
DLXJ/NC	○	—	AC110-120V/220-230V/240V	With the voltage selector
DDXJ	—	○	AC110-127V/220-230V/240V	With the voltage selector

● This service manual should be used together with the following manual(s):

Model No.	Order No.	Remarks
XR-VS70SW/DBDXJ	RRV2364	

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T – ZZK AUG. 2001 Printed in Japan

2. CONTRAST OF MISCELLANEOUS PARTS

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on product are used for disassembly.*
- *Reference Nos. indicate the pages and Nos. in the service manual for the base model.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 → 56 x 10^1 → 561 ····· RD1/4PU 5 6 1 J
47k → 47 x 10^3 → 473 ····· RD1/4PU 4 7 3 J
0.5 → R50 ····· RN2H R 5 0 K
1 → 1R0 ····· RS1P 1 R 0 K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k → 562 x 10^1 → 5621 ····· RN1/4PC 5 6 2 1 F

■ CONTRAST TABLE

XR-VS200/DBDXJ, DLXJ/NC, XR-VS200SW/DDXJ and XR-VS70SW/DBDXJ are constructed the same except for the following :

Ref. No.	Mark	Symbol and Description	Part No.				Remarks
			XR-VS70SW /DBDXJ	XR-VS200 /DBDXJ	XR-VS200 /DLXJ/NC	XR-VS200SW /DDXJ	
		PCB ASSEMBLIES					
		COMPLEX ASSY	XWM3160	AWM7611	AWM7611	AWM7612	
P5- 3		├ PRIMARY ASSY	XWZ3291	AWU7965	AWU7965	AWU7965	
P7- 1		└ DISPLAY ASSY	XWZ3302	AWU7795	AWU7795	AWU7796	
P5- 4		FM/AM TUNER Module	AXQ7062	AXQ7065	AXQ7065	AXQ7062	*1
		PACKING SECTION					
P3- 1	⚠	Power Cord	ADG1158	ADG1158	ADG1154	ADG1158	
P3- 8		Front Pad	XHA3018	XHA3028	XHA3028	XHA3028	
P3- 9		Rear Pad	XHA3019	XHA3029	XHA3029	XHA3029	
P3-10		Packing Case	XHD3124	XHD3267	XHD3269	XHD3268	
P3-12		Operating Instructions (English/Chinese/Spanish)	XRE3034	Not used	Not used	Not used	
P3-12		Operating Instructions (English/Chinese)	Not used	XRE3051	XRE3051	Not used	
P3-14		SW Wire Antenna	ADH7006	Not used	Not used	ADH7006	
		Operating Instructions (English/Arabic)	Not used	Not used	Not used	XRE3050	
	⚠	Power-cord Plug Conversion Adapter	Not used	XKM3002	Not used	Not used	Accessories
		Caution Sheet	XRH3003	Not used	Not used	Not used	
		EXTERIOR SECTION					
P5-11		Tray Cap	XAK3156	XAK3236	XAK3236	XAK3236	
		Tray Panel CD	Not used	XAK3269	XAK3269	XAK3269	For Tray Cap
P5-15		Rear Panel	XNC3057	XNC3123	XNC3133	XNC3155	
P5-26	NSP	Tray Cap Assy	XXG3046	Not used	Not used	Not used	
P5-31		Caution Label	Not used	PRW1018	PRW1018	PRW1018	
P5-36	NSP	Getter	XAX3168	XAX3264	XAX3264	XAX3264	
P5-44		Barrier	XEC3013	XEC3027	XEC3027	XEC3027	
		Rear Sheet	AED7037	Not used	Not used	Not used	
	NSP	Name Label	XAL3045	Not used	Not used	Not used	
		FRONT PANEL SECTION					
P7-18		Volume Knob	XAA3013	XAA3022	XAA3022	XAA3022	
P7-21		FUNC Button L	XAD3078	XAD3116	XAD3116	XAD3116	No.8
		FUNC Cap L	Not used	XAK3247	XAK3247	XAK3247	No.7
P7-22		FUNC Button R	XAD3079	XAD3117	XAD3117	XAD3117	No.10
		FUNC Cap R	Not used	XAK3248	XAK3248	XAK3248	No.9
P7-23		FUNC Frame L	XAD3052	Not used	Not used	Not used	
P7-24		FUNC Frame R	XAD3053	Not used	Not used	Not used	
P7-25		CD ENT Button	XAD3055	XAD3109	XAD3109	XAD3109	No.12
P7-26		Display Panel	XAK3129	XAK3263	XAK3263	XAK3263	
P7-27		EQ Panel	XAK3149	Not used	Not used	Not used	

Ref. No.	Mark	Symbol and Description	Part No.				Remarks
			XR-VS70SW /DBDXJ	XR-VS200 /DBDXJ	XR-VS200 /DLXJ/NC	XR-VS200SW /DDXJ	
		SC Panel	Not used	XAK3268	XAK3268	XAK3268	No.26
		SC Panel Assy	Not used	XXG3090	XXG3090	XXG3090	No.13
P7-28		JOG Lens	XAK3152	XAK3243	XAK3243	XAK3243	No.23
P7-29		V Lens	XAK3153	XAK3237	XAK3237	XAK3237	
P7-33		FL Cover	XAK3163	XAK3239	XAK3239	XAK3239	
P7-34		Cover Sheet L	XAK3184	Not used	Not used	Not used	
P7-35		Cover Sheet R	XAK3185	Not used	Not used	Not used	
		LED Barrier	Not used	XEC3022	XEC3022	XEC3022	No.24
P7-36		Power Button	XAD3043	XAD3102	XAD3102	XAD3102	No.17
P7-37		CD Button	XAD3045	XAD3104	XAD3104	XAD3104	No.19
P7-38		SC Button	XAD3060	Not used	Not used	Not used	
		SC Button L	Not used	XAD3105	XAD3105	XAD3105	No.29
		SC Cap L	Not used	XAK3241	XAK3241	XAK3241	No.27
		SC Button R	Not used	XAD3106	XAD3106	XAD3106	No.30
		SC Cap R	Not used	XAK3267	XAK3267	XAK3267	No.28
		ASES Button	Not used	XAD3114	XAD3114	XAD3114	No.20
		Timer Button	Not used	XAD3115	XAD3115	XAD3115	No.21
P7-39		SC Button L	XAD3047	Not used	Not used	Not used	
		Audio Button	Not used	XAD3107	XAD3107	XAD3107	No.14
P7-40		SC Button R	XAD3049	Not used	Not used	Not used	
		Visual Button	Not used	XAD3108	XAD3108	XAD3108	No.15
P7-41		DOLBY Button	XAD3054	XAD3119	XAD3119	XAD3119	No.11
P7-42		Sub Panel	XAK3198	XAK3256	XAK3256	XAK3256	No.6
P7-43		Standby Lens	XAK3151	XAK3240	XAK3240	XAK3240	No.18
P7-44		Deck Lens L	XAK3159	XAK3249	XAK3249	XAK3249	No.3
P7-45		Deck Lens R	XAK3160	XAK3250	XAK3250	XAK3250	No.5
P7-46		JOG Conductor	XAK3165	XAK3244	XAK3244	XAK3244	No.22
P7-47		Deck Door_L	XAN3021	XAN3041	XAN3041	XAN3041	No.2
P7-48		Deck Door_R	XAN3025	XAN3042	XAN3042	XAN3042	No.4
P7-49		Front Panel	XMB3026	XMB3056	XMB3056	XMB3056	No.1
		O/C Button	Not used	XAD3103	XAD3103	XAD3103	No.16
P7-50	NSP	Front Panel Assy	XXG3062	XXG3083	XXG3083	XXG3083	
P7-52		Spacer	XEB3012	Not used	Not used	Not used	
P7-53		Spacer	XEB3013	Not used	Not used	Not used	
P7-59		Cushion Spacer	XEB3015	Not used	Not used	Not used	
P7-60		Cushion Spacer	XEB3016	Not used	Not used	Not used	
P7-61		Cushion Spacer	XEB3017	Not used	Not used	Not used	
		Spacer	XEC3014	Not used	Not used	Not used	
		Spacer	XEC3019	Not used	Not used	Not used	

Notes : For PCB ASSEMBLIES, Refer to “CONTRAST OF PCB ASSEMBLIES”.
The numbers in the remarks column correspond to the numbers on the “ FRONT PANEL ASSY ”.
*1 Refer to XR-VS70/DLXJ/NC.

■ CONTRAST OF PCB ASSEMBLIES

IF DISPLAY ASSY

AWU7795, AWU7796 and XWZ3302 are constructed the same except for the following :

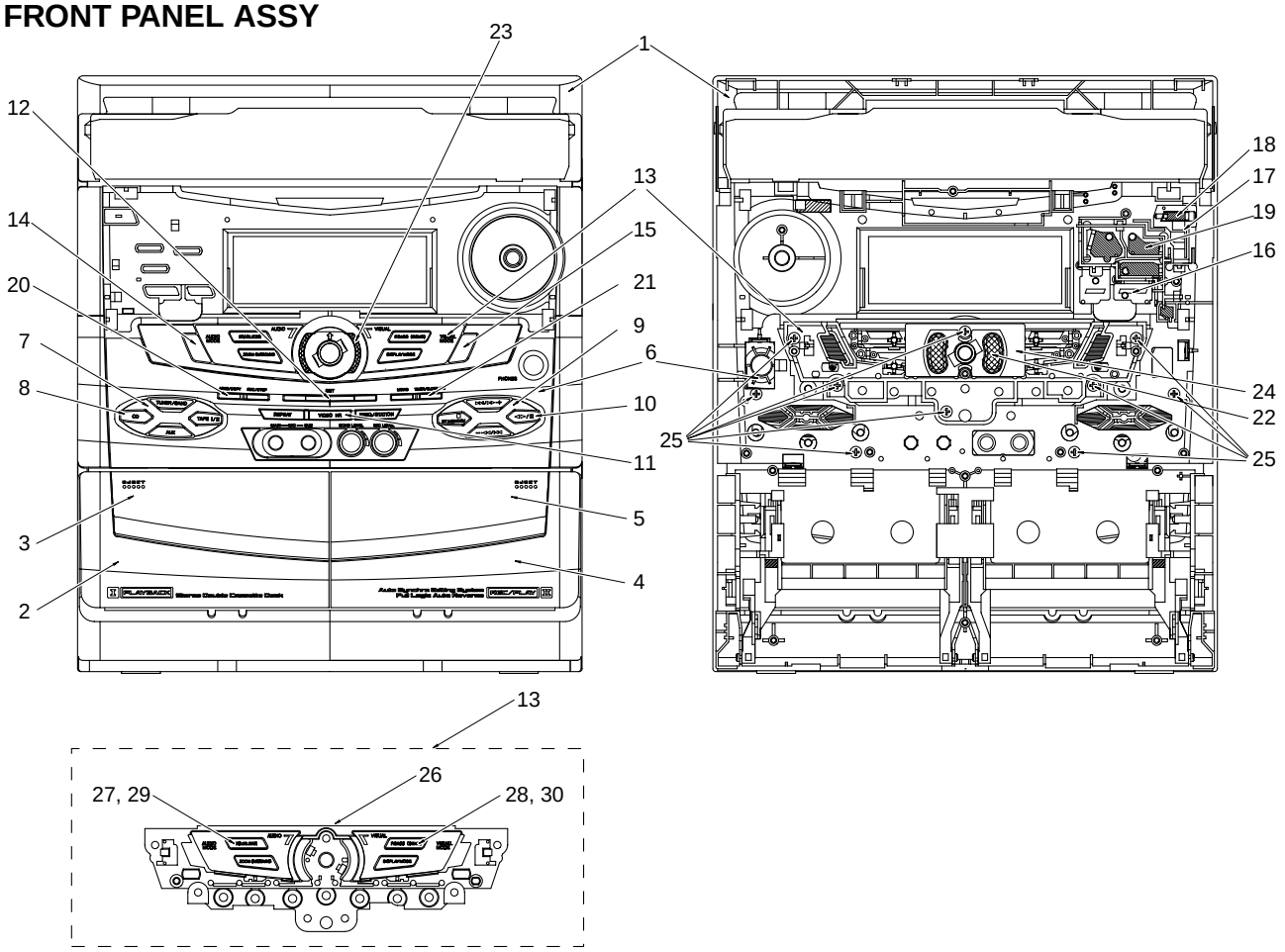
Mark	Symbol and Description	Part No.			Remarks
		XWZ3302	AWU7795	AWU7796	
	D5594	1SS133	Not used	1SS133	
	D5610, D5611, D5615, D5616, D5904	SLP3118C51H	SLR-343MC(NPQ)	SLR-343MC(NPQ)	
	D5612, D5614	SLP6118C51H	SLR-343DC(NPQ)	SLR-343DC(NPQ)	
	D5619, D5620, D5903	SLP9118C51H	SLR-343VC(NPQ)	SLR-343VC(NPQ)	
	D5902	SLP7118C51H	SLR-343PC(KLM)	SLR-343PC(KLM)	
	S5911, S5913, S5915–S5921, S5923–S5929	XSG3001	ASG1051	ASG1051	
	S5931–S5940	XSG3001	ASG1051	ASG1051	

HF PRIMARY ASSY

AWU7965 and XWZ3291 are constructed the same except for the following :

Mark	Symbol and Description	Part No.		Remarks
		XWZ3291	AWU7965	
	L1 LINE FILTER	ATF7018	Not used	

■ FRONT PANEL ASSY

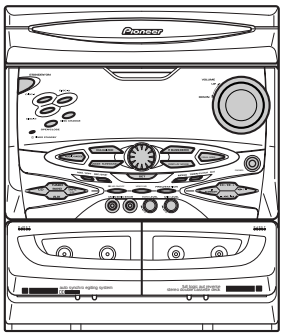


• FRONT PANEL ASSY PARTS LIST

Mark	No.	Description	Part No.
	1	Front Panel	XMB3056
	2	Deck Door_L	XAN3041
	3	Deck Lens L	XAK3249
	4	Deck Door_R	XAN3042
	5	Deck Lens R	XAK3250
	6	Sub Panel	XAK3256
	7	FUNC Cap L	XAK3247
	8	FUNC Button L	XAD3116
	9	FUNC Cap R	XAK3248
	10	FUNC Button R	XAD3117
	11	DOLBY Button	XAD3119
	12	CD ENT Button	XAD3109
	13	SC Panel Assy	XXG3090
	14	Audio Button	XAD3107
	15	Visual Button	XAD3108

Mark	No.	Description	Part No.
	16	O/C Button	XAD3103
	17	Power Button	XAD3102
	18	Standby Lens	XAK3240
	19	CD Button	XAD3104
	20	ASES Button	XAD3114
	21	Timer Button	XAD3115
	22	JOG Conductor	XAK3244
	23	JOG Lens	XAK3243
	24	LED Barrier	XEC3022
	25	Screw	BPZ30P080FMC
	26	SC Panel	XAK3268
	27	SC Cap L	XAK3241
	28	SC Cap R	XAK3267
	29	SC Button L	XAD3105
	30	SC Button R	XAD3106

Service Manual



ORDER NO.
RRV2364

STEREO CD/VCD CASSETTE DECK RECEIVER

XR-VS90SW
XR-VS90
XR-VS70SW
XR-VS70

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model				Power Requirement	The voltage can be converted by the following method.
	XR-VS90SW	XR-VS90	XR-VS70SW	XR-VS70		
DBDXJ	○	—	○	—	AC110-127V/220-230V/240V	With the voltage selector
DLXJ/NC	—	○	—	○	AC110-127V/220-230V/240V	With the voltage selector
DXJN/NC	—	○	—	○	AC110-127V/220-230V/240V	With the voltage selector

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1. SAFETY INFORMATION

This service manual is intended for qualified service technicians ; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING !

THE AEL (ACCESSIBLE EMISSION LEVEL) OF THE LASER POWER OUTPUT IS LESS THAN CLASS 1 BUT THE LASER COMPONENT IS CAPABLE OF EMITTING RADIATION EXCEEDING THE LIMIT FOR CLASS 1.
A SPECIALLY INSTRUCTED PERSON SHOULD DO SERVICING OPERATION OF THE APPARATUS.

LASER DIODE CHARACTERISTICS

MAXIMUM OUTPUT POWER: 5 mW
WAVELENGTH: 780 nm to 785 nm

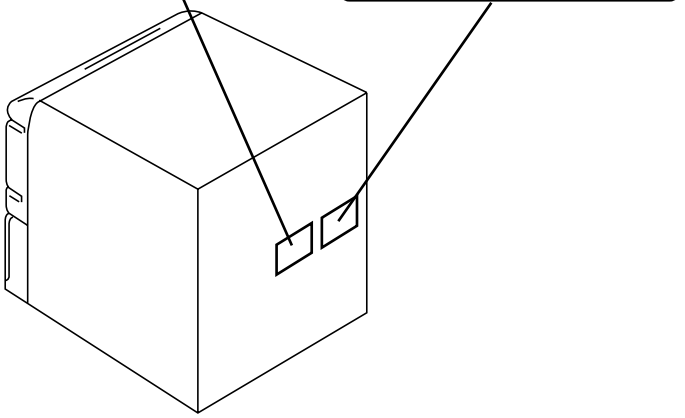
LABEL CHECK (For DLXJ/NC Type)

Printed on the Rear Panel

CLASS 1
LASER PRODUCT

DLXJ/NC Type

CAUTION
INVISIBLE LASER
RADIATION WHEN OPEN,
AVOID EXPOSURE
TO BEAM
PRW1018



Additional Laser Caution

1. Laser Interlock Mechanism
   The position of the switch (S9501) for detecting loading state is detected by the system microprocessor, and the design prevents laser diode oscillation when the switch (S9501) is pressed physically.
   Thus, the interlock will no longer function if the switch (S9501) is released physically and deliberatery.
   The interlock also does not function in the test mode ∗. Laser diode oscillation will continue, if pin 62 of LA9240ML (IC1101) on the $M SERVO VCD Assy mounted on the $M MECHANISM VCD is connected to GND, or else the terminals of Q1101 are shorted to each other (fault condition).

2. When the cover is opened, close viewing of the objective lens with the naked eye will cause exposure to a Class 1 laser beam.

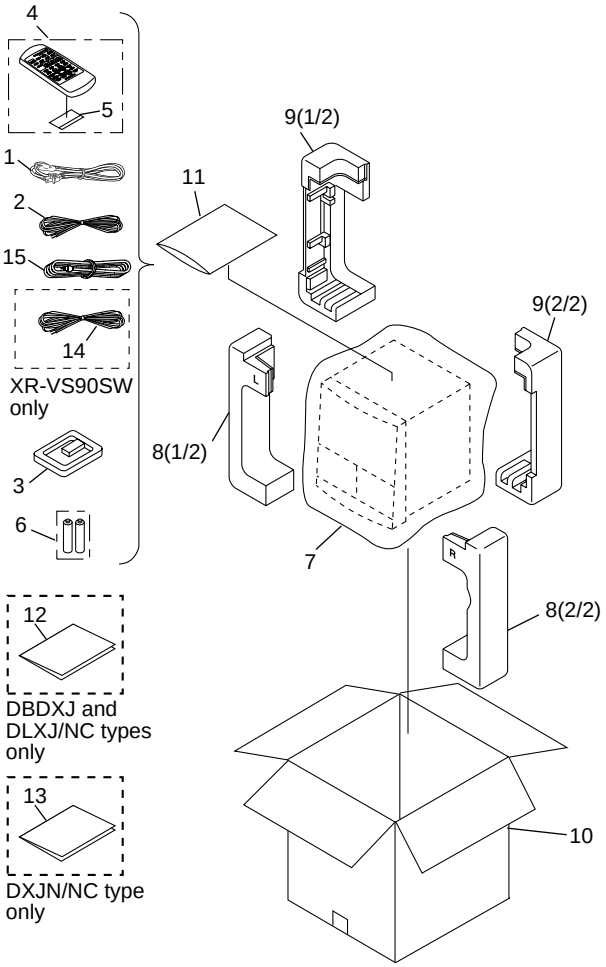
∗ : Refer to page 73.

2. EXPLODED VIEWS AND PARTS LIST

NOTES: ● **Parts marked by "NSP" and ⊗ can not be supplied.**

- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on the product are used for disassembly.*

2.1 PACKING



(1) PACKING PARTS LIST

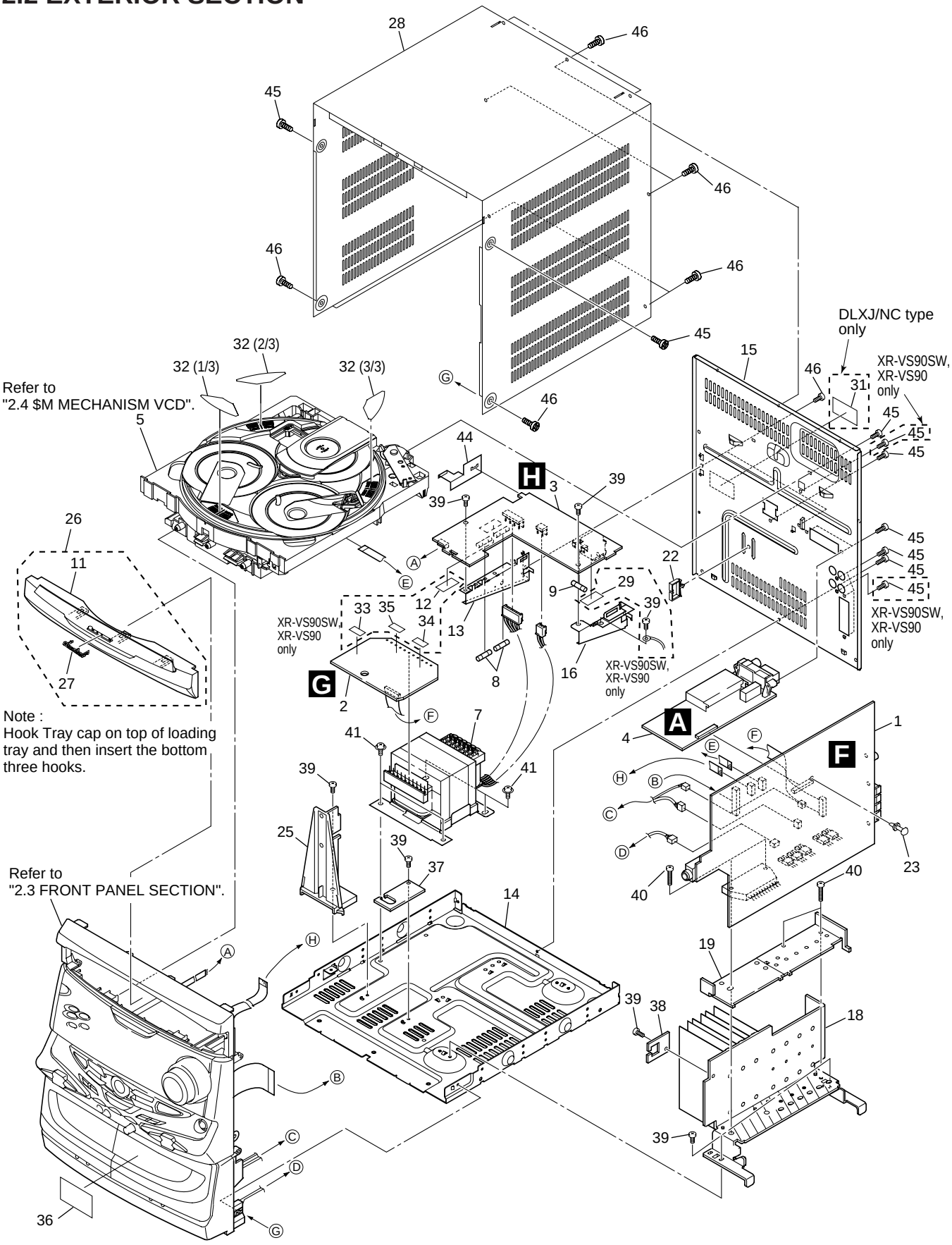
Mark	No.	Description	Part No.
⚠	1	Power Cord	See Contrast table (2)
	2	FM Antenna	ADH7004
	3	AM Loop Antenna	XTB3001
	4	Remote Control Unit	XZN3107
	5	Battery Cover	XZN3104
NSP	6	Dry Cell Battery (R6P, AA)	VEM-013
	7	Packing Sheet	AHG7053
	8	Front Pad	XHA3018
	9	Rear Pad	XHA3019
	10	Packing Case	See Contrast table (2)
NSP	11	Polyethylene Bag ($0.03 \times 230 \times 340$)	Z21-038
	12	Operating Instructions (English/Chinese/Spanish)	See Contrast table (2)
	13	Operating Instructions (Thai)	See Contrast table (2)
	14	AM wire Antenna	See Contrast table (2)
	15	Video Cord (L=1.5m/Yellow)	VDE1034

(2) CONTRAST TABLE

XR-VS90SW/DBDXJ, XR-VS90/DLXJ/NC, DXJN/NC, XR-VS70SW/DBDXJ, XR-VS70/DLXJ/NC and DXJN/NC are constructed the same except for the following :

Mark	No.	Symbol and Description	Part No.						Remarks
			XR-VS90SW	XR-VS90		XR-VS70SW	XR-VS70		
			/DBDXJ	/DLXJ/NC	/DXJN/NC	/DBDXJ	/DLXJ/NC	/DXJN/NC	
⚠	1	Power Cord	ADG1158	ADG1154	ADG1154	ADG1158	ADG1154	ADG1154	
	10	Packing Case	XHD3132	XHD3133	XHD3134	XHD3124	XHD3125	XHD3126	
	12	Operating Instructions (English/Chinese/Spanish)	XRE3034	XRE3034	Not used	XRE3034	XRE3034	Not used	
	13	Operating Instructions (Thai)	Not used	Not used	XRC3024	Not used	Not used	XRC3024	
	14	AM wire Antenna	AHD7006	Not used	Not used	AHD7006	Not used	Not used	

2.2 EXTERIOR SECTION



(1) EXTERIOR SECTION PARTS LIST

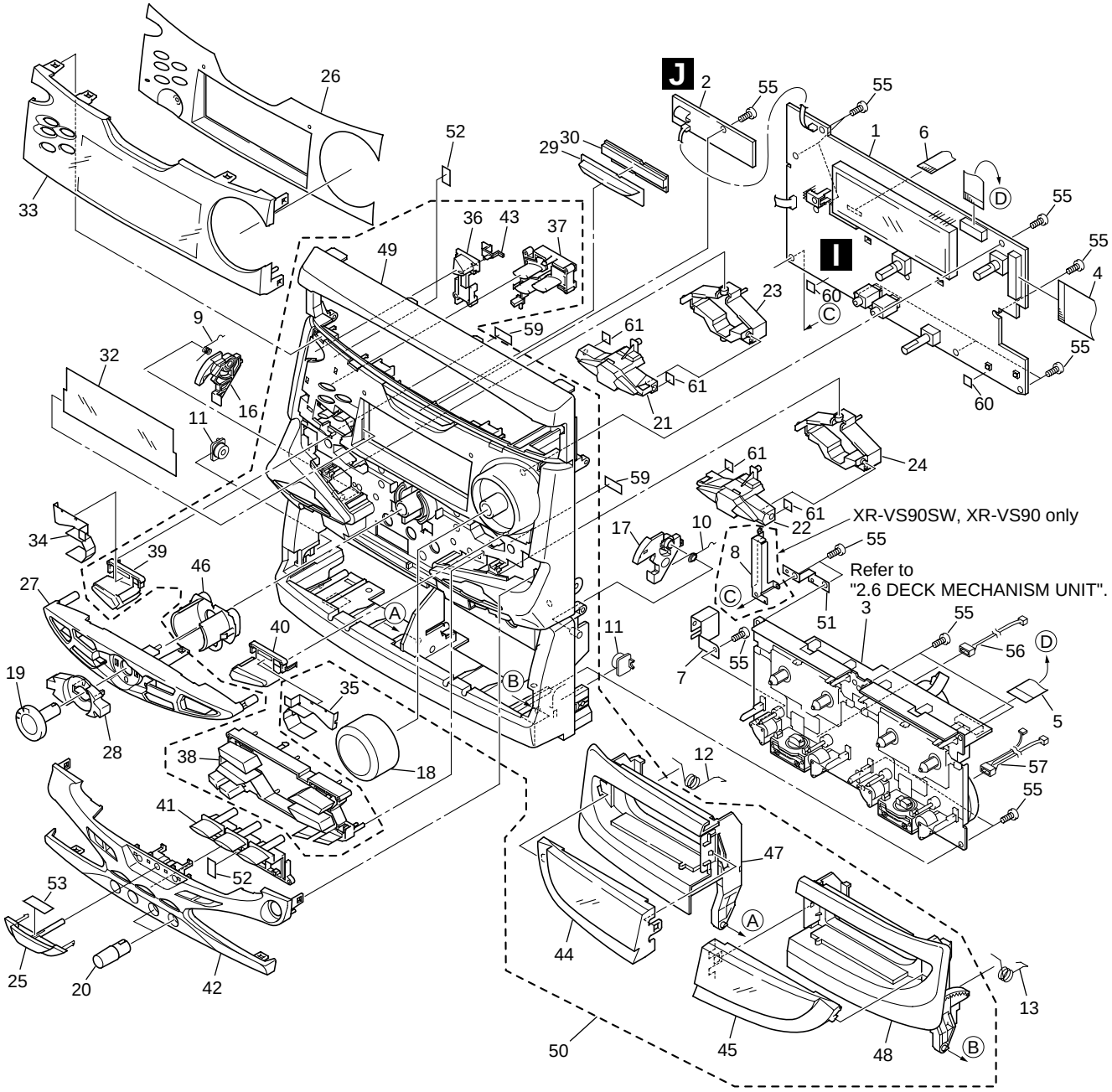
Mark	No.	Description	Part No.
⊗	1	AF Assy	See Contrast table (2)
	2	SECONDARY Assy	See Contrast table (2)
	3	PRIMARY Assy	XWZ3291
	4	FM/AM TUNER Module	See Contrast table (2)
NSP	5	$M MECHANISM VCD	See Contrast table (2)
	6	• • • • •	
⚠	7	Power Transformer (T1)	See Contrast table (2)
⚠	8	Fuse (FU2, FU3)	See Contrast table (2)
⚠	9	Fuse (FU1)	See Contrast table (2)
	10	Spacer	XEC3014
	11	Tray Cap S	XAK3156
	12	Fuse Card	See Contrast table (2)
	13	PCB Bracket	ANG7263
NSP	14	Chassis	XNA3006
	15	Rear Panel	See Contrast table (2)
	16	PCB Bracket	XNG3006
	17	Binder	ZCA-SKB90BK
	18	Heat Sink	See Contrast table (2)
	19	Sub Heat Sink B	XNH3012
	20	• • • • •	
	21	• • • • •	
	22	Wire Clip A	XEC3003
	23	Card Spacer	XEC3008
	24	• • • • •	
	25	SEC Holder A	See Contrast table (2)
NSP	26	Tray Cap Assy	XXG3046
	27	Pioneer Badge	XAM3001
	28	Bonnet Case	XZN3098
NSP	29	Fuse Card	See Contrast table (2)
	30	• • • • •	
	31	Caution Label	See Contrast table (2)
	32	Disc Label	XAX3127
	33	ICP Label	See Contrast table (2)
	34	ICP Label	See Contrast table (2)
	35	ICP Label	See Contrast table (2)
NSP	36	Getter	See Contrast table (2)
NSP	37	DO NOT THROW Assy	• • • • •
NSP	38	CABLE HOLDER Assy	• • • • •
	39	Screw	BBZ30P080FMC
	40	Screw	BBZ30P180FMC
	41	Screw	ASZ40P060FMC
	42	Screw	BPZ30P080FMC
	43	Screw	VBZ30P080FZK
	44	Barier	XEC3013
	45	Screw	BPZ30P100FZK
	46	Screw	VBT30P080FZK

(2) CONTRAST TABLE

XR-VS90SW/DBDXJ, XR-VS90/DLXJ/NC, DXJN/NC, XR-VS70SW/DBDXJ, XR-VS70/DLXJ/NC and DXJN/NC are constructed the same except for the following :

Mark	No.	Symbol and Description	Part No.						Remarks
			XR-VS90SW	XR-VS90		XR-VS70SW	XR-VS70		
			/DBDXJ	/DLXJ/NC	/DXJN/NC	/DBDXJ	/DLXJ/NC	/DXJN/NC	
⊗	1	AF Assy	XWZ3313	XWZ3313	XWZ3313	XWZ3300	XWZ3300	XWZ3300	
	2	SECONDARY Assy	XWZ3304	XWZ3304	XWZ3304	XWZ3289	XWZ3289	XWZ3289	
	4	FM/AM TUNER Module	AXQ7062	AXQ7065	AXQ7065	AXQ7062	AXQ7065	AXQ7065	
NSP	5	$M MECHANISM VCD	XXA3017	XXA3017	XXA3017	XXA3016	XXA3016	XXA3016	
⚠	7	Power Transformer (T1)	XTS3037	XTS3037	XTS3037	XTS3036	XTS3036	XTS3036	
⚠	8	Fuse (FU2, FU3)	AEK1059 (T3.15A)	AEK1059 (T3.15A)	AEK1059 (T3.15A)	AEK1057 (T2A)	AEK1057 (T2A)	AEK1057 (T2A)	
⚠	9	Fuse (FU1)	AEK1061 (T5A)	AEK1061 (T5A)	AEK1061 (T5A)	AEK1060 (T4A)	AEK1060 (T4A)	AEK1060 (T4A)	
	12	Fuse Card	AAX7493	AAX7493	AAX7493	Not used	Not used	Not used	
	15	Rear Panel	XNC3062	XNC3062	XNC3062	XNC3057	XNC3057	XNC3057	
	18	Heat Sink	XNH3010	XNH3010	XNH3010	XNH3009	XNH3009	XNH3009	
	25	SEC Holder A	XMR3033	XMR3033	XMR3033	XMR3034	XMR3034	XMR3034	
NSP	29	Fuse Card	AAX7098	AAX7098	AAX7098	Not used	Not used	Not used	
	31	Caution Label	Not used	PRW1018	Not used	Not used	PRW1018	Not used	
	33	ICP Label	XAX3121	XAX3121	XAX3121	Not used	Not used	Not used	
	34	ICP Label	XAX3153	XAX3153	XAX3153	Not used	Not used	Not used	
	35	ICP Label	XAX3158	XAX3158	XAX3158	Not used	Not used	Not used	
NSP	36	Getter	XAX3173	XAX3173	XAX3173	XAX3168	XAX3168	XAX3168	

2.3 FRONT PANEL SECTION



(1) FRONT PANEL SECTION PARTS LIST

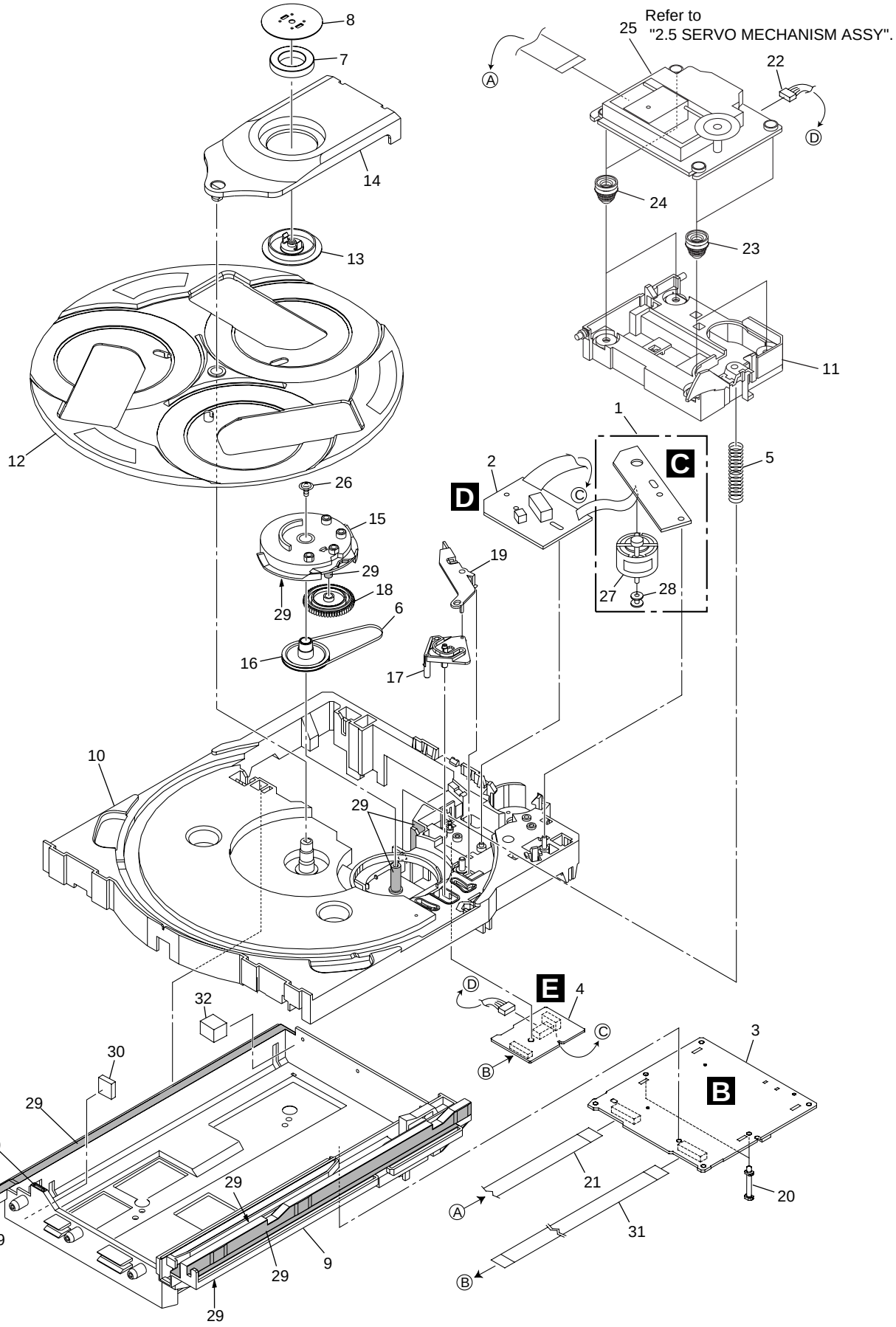
Mark	No.	Description	Part No.
⊗	1	DISPLAY Assy	See Contrast table (2)
⊗	2	BLUE LED Assy	XWZ3292
	3	Deck Mechanism Unit	See Contrast table (2)
	4	Flexible Cable 27P	XDD3041
	5	Flexible Cable 15P	See Contrast table (2)
	5	Flexible Cable 13P	See Contrast table (2)
	6	Flexible Cable 05P	XDD3042
	7	GND Plate B	XNG3031
	8	GND Plate C	See Contrast table (2)
	9	Ratch Spring_L	ABH7130
	10	Ratch Spring_R	ABH7131
	11	Damper Assy	XXA3025
	12	Door Spring_L	XBH3010
	13	Door Spring_R	XBH3011
	14	• • • • •	
	15	• • • • •	
	16	Ratch Mold_L	XMR3001
	17	Ratch Mold_R	XMR3002
	18	Volume Knob	XAA3013
	19	JOG Knob	XAA3015
	20	MIC Knob	XAB3007
	21	FUNC Button L	See Contrast table (2)
	22	FUNC Button R	See Contrast table (2)
	23	FUNC Frame L	XAD3052
	24	FUNC Frame R	XAD3053
	25	CD ENT Button	XAD3055
	26	Display Panel	See Contrast table (2)
	27	EQ Panel S	See Contrast table (2)
	28	JOG Lens S	XAK3152
	29	V Lens S	XAK3153
	30	LT Conductor S	XAK3155
	31	• • • • •	
	32	FL Filter	XAK3162
	33	FL Cover	XAK3163
	34	Cover Sheet L	XAK3184
	35	Cover Sheet R	XAK3185
	36	Power Button	XAD3043
	37	CD Button	XAD3045
	38	SC Button	XAD3060
	39	SC Button L	XAD3047
	40	SC Button R	XAD3049
	41	DOLBY Button	XAD3054
	42	Sub Panel S	See Contrast table (2)
	43	ST Lens S	XAK3151
	44	Deck Lens L S	XAK3159
	45	Deck Lens R S	XAK3160
	46	JOG Conductor	XAK3165
	47	Deck Door_L	See Contrast table (2)
	48	Deck Door_R	See Contrast table (2)
	49	Front Panel	XMB3026
NSP	50	Front Panel Assy	See Contrast table (2)
	51	GND Plate A	See Contrast table (2)
	52	Spacer	XEB3012
	53	Spacer	XEB3013
	54	• • • • •	
	55	Screw	BPZ30P080FMC
	56	Connector Assy 3P	See Contrast table (2)
	57	Connector Assy 5P	XDE3038
	58	• • • • •	
	59	Cushion Spacer	XEB3015
	60	Cushion Spacer	XEB3016
	61	Cushion Spacer	XEB3017

(2) CONTRAST TABLE

XR-VS90SW/DBDXJ, XR-VS90/DLXJ/NC, DXJN/NC, XR-VS70SW/DBDXJ, XR-VS70/DLXJ/NC and DXJN/NC are constructed the same except for the following :

Mark	No.	Symbol and Description	Part No.						Remarks
			XR-VS90SW	XR-VS90		XR-VS70SW	XR-VS70		
			/DBDXJ	/DLXJ/NC	/DXJN/NC	/DBDXJ	/DLXJ/NC	/DXJN/NC	
⊗	1	DISPLAY Assy	XWZ3315	XWZ3314	XWZ3314	XWZ3302	XWZ3301	XWZ3301	
	3	Deck Mechanism Unit	XYM3012	XYM3012	XYM3012	XYM3011	XYM3011	XYM3011	
	5	Flexible Cable 15P	XDD3050	XDD3050	XDD3050	Not used	Not used	Not used	
	5	Flexible Cable 13P	Not used	Not used	Not used	XDD3040	XDD3040	XDD3040	
	8	GND Plate C	XNG3047	XNG3047	XNG3047	Not used	Not used	Not used	
	21	FUNC Button L	XAD3050	XAD3050	XAD3050	XAD3078	XAD3078	XAD3078	
	22	FUNC Button R	XAD3051	XAD3051	XAD3051	XAD3079	XAD3079	XAD3079	
	26	Display Panel	XAK3133	XAK3133	XAK3133	XAK3129	XAK3129	XAK3129	
	27	EQ Panel S	XAK3150	XAK3150	XAK3150	XAK3149	XAK3149	XAK3149	
	42	Sub Panel S	XAK3145	XAK3145	XAK3145	XAK3141	XAK3141	XAK3141	
	47	Deck Door_L	XAN3022	XAN3022	XAN3022	XAN3021	XAN3021	XAN3021	
	48	Deck Door_R	XAN3026	XAN3026	XAN3026	XAN3025	XAN3025	XAN3025	
NSP	50	Front Panel Assy	XXG3065	XXG3065	XXG3065	XXG3062	XXG3062	XXG3062	
	51	GND Plate A	Not used	Not used	Not used	XNG3030	XNG3030	XNG3030	
	56	Connector Assy 3P	XDE3037	XDE3037	XDE3037	XDE3036	XDE3036	XDE3036	

2.4 $M MECHANISM VCD



(1) $M MECHANISM VCD PARTS LIST

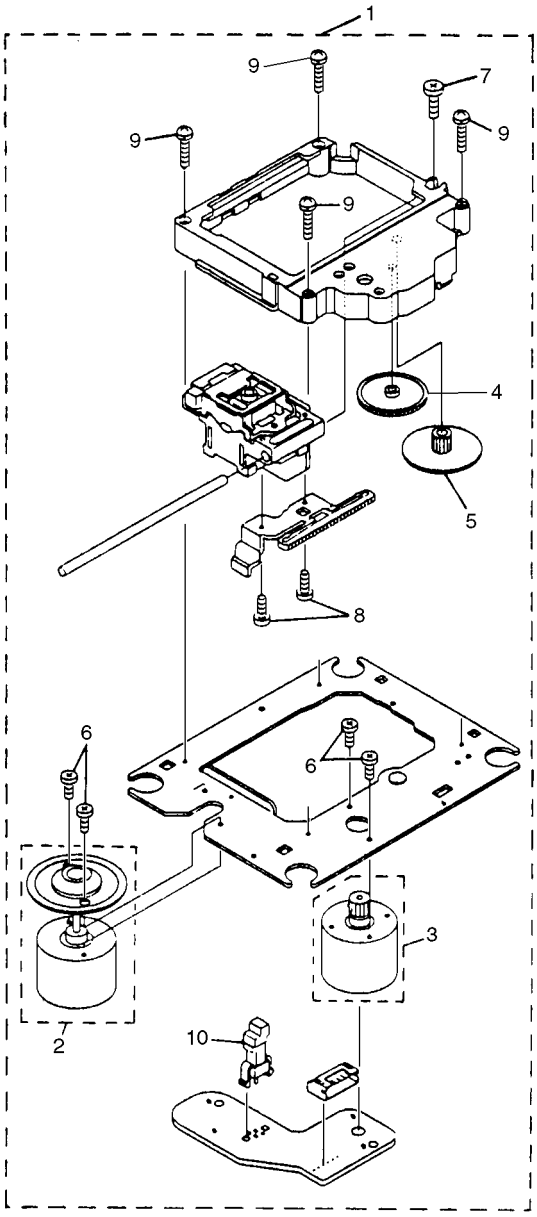
Mark	No.	Description	Part No.
	1	MOTOR Assy	XWZ3080
	2	SW Assy	XWZ3081
NSP	3	$M SERVO VCD Assy	See Contrast table (2)
	4	TRADE Assy	XWZ3082
	5	Servo Spring	ABH7126
	6	Belt	AEB7072
	7	Clamp Magnet	AMF7001
	8	Yoke	ANB7216
	9	Mecha Base	XNW3011
	10	Loading Tray	XNW3002
	11	Servo Base	XNW3012
	12	Rotary Tray	ANW7113
	13	Clamper	ANW7091
	14	Clamper Holder	XNW3004
	15	Main Cam	ANW7093
	16	Gear Pulley	ANW7094
	17	Lock Lever	ANW7095
	18	Planet Gear	ANW7096
	19	Actuator	ANW7097
	20	Mini Card Spacer	AEC7143
	21	15P Flexible Cable/30V	XDD3007
	22	Connector Assy (6P)	ADE7010
	23	Float Rubber A	AEB7063
	24	Float Rubber B	AEB7066
	25	Servo Mechanism Assy	XXA3015
	26	Screw	IPZ30P080FMC
	27	Carriage Motor	VXM1033
	28	Motor Pulley	PNW1634
	29	Ha Narl	GEM1016
	30	Cushion Rubber	XEB3005
	31	13P Flexible Cable/30V	XDD3008

(2) CONTRAST TABLE

$M MECHANISM VCD (XXA3017) and (XXA3016) are constructed the same except for the following :

Mark	No.	Symbol and Description	Part No.		Remarks
			XXA3017 (XR-VS90SW, XR-VS90)	XXA3016 (XR-VS70SW, XR-VS70)	
	3	$M SERVO VCD Assy	XWX3018	XWX3017	

2.5 SERVO MECHANISM ASSY



● SERVO MECHANISM ASSY PARTS LIST

Mark	No.	Description	Part No.
	1	Servo Mechanism Assy	XXA3015
	2	Spindle Motor Assy	AEA7009
	3	Sled Motor Assy	AEA7010
	4	Gear A	AEA7013
	5	Gear B	AEA7014
	6	Screw	AEA7015
	7	Screw	AEA7016
	8	Screw	AEA7017
	9	Screw	AEA7018
	10	Leaf Switch	AEA7011

2.6 DECK MECHANISM UNIT

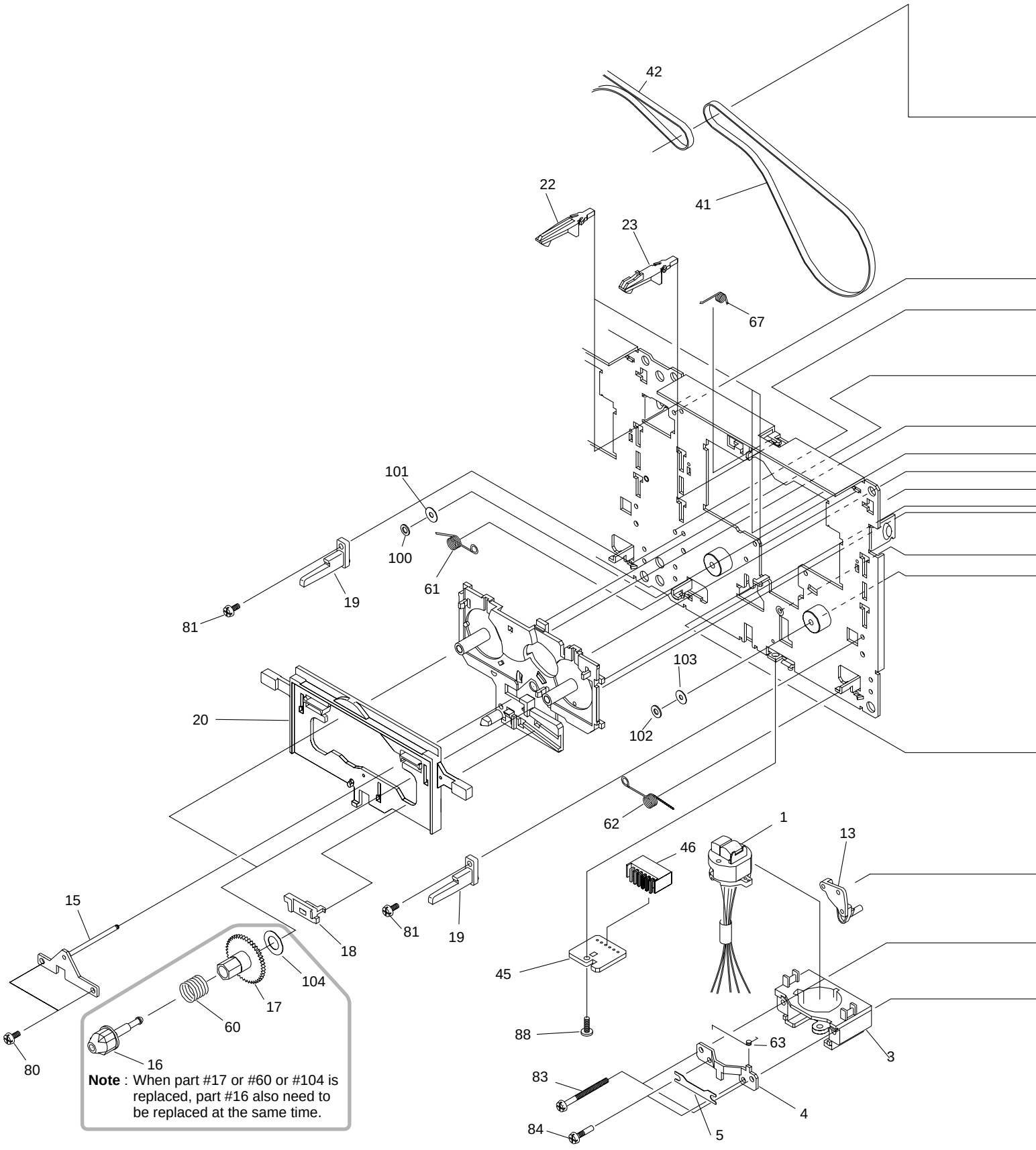
2.6.1 XYM3012

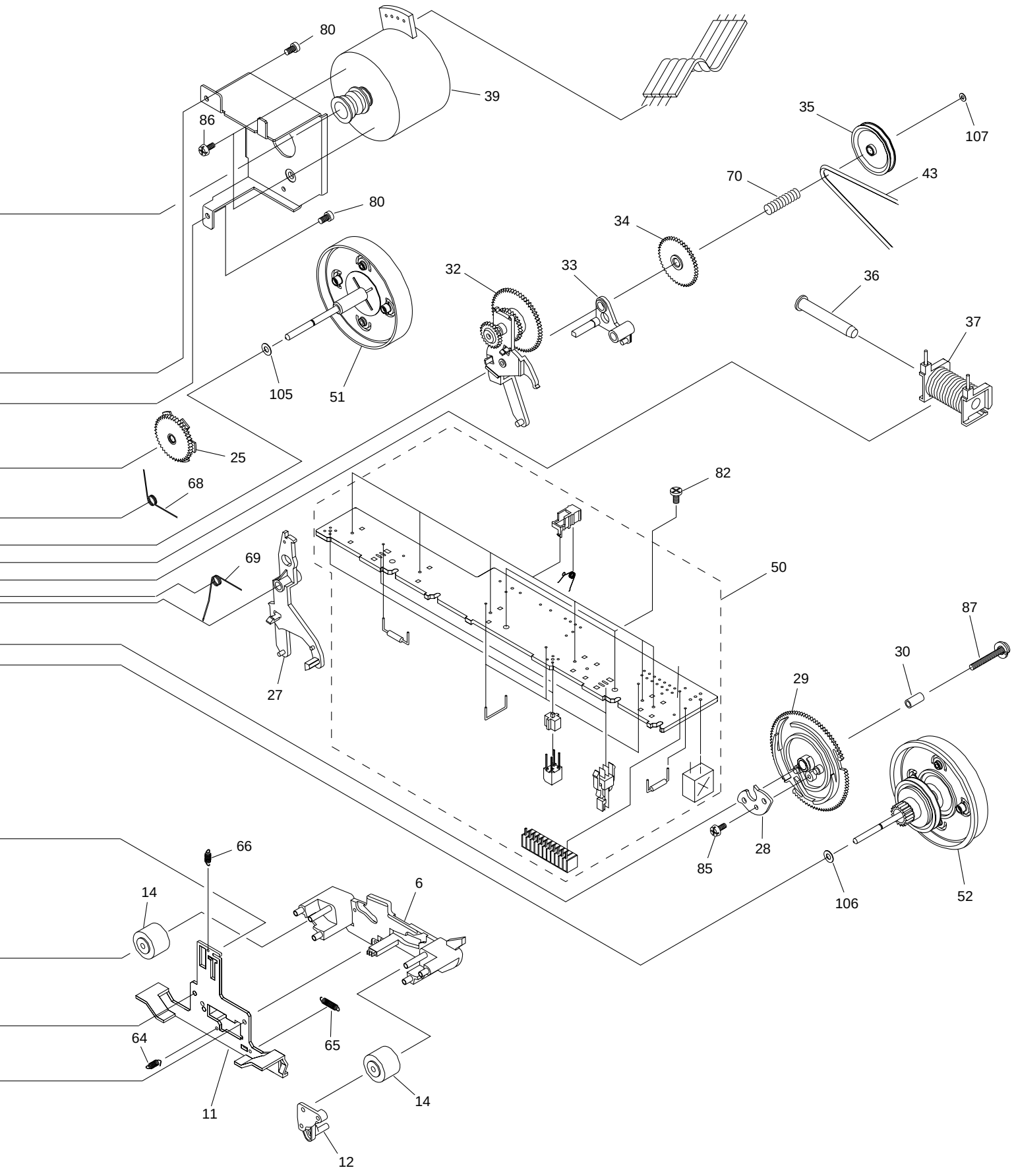
● DECK MECHANISM UNIT (XYM3012) PARTS LIST

Mark	No.	Description	Part No.
	1	Assy'y HD Holder	50-093-4373
	2	Assy'y HD Holder	50-093-4104
	3	Frame HD	50-219-3024
	4	Plate AZ	50-119-4046
	5	Spring AZ	50-160-4108
	6	Lever HD	50-259-3342
	11	Chassis HD	50-112-3045
	12	Cap Pinch R	50-219-4033
	13	Cap Pinch L	50-219-4034
	14	Roller Pinch	50-027-41054
	15	Ass'y Plate D	50-219-4311
	16	Cap Reel	50-228-4020
	17	Gear Reel	50-222-4006
	18	Lever ST	50-259-4041
	19	Guide C	50-219-4014
	20	Lever Brake	50-259-3251
	22	Arm SW	50-239-4027
	23	Arm CS	50-239-4026
	25	Ass'y Cover	50-093-4063
	26	Ass'y Flywheel LA	50-093-3366
	27	Arm Trigger	50-268-3016
	28	Arm Cam	50-139-4292
	29	Gear Cam	50-221-3009
	30	Coller	03-300-4455
	31	Ass'y Flywheel RA	50-093-3360
	32	Ass'y Clutch	50-093-4069
	33	Arm UD A	50-239-4017
	34	Gear UD	50-222-4007
	35	Pulley D	50-223-4254
	36	Plunger	03-300-4442
	37	Ass'y Bobbin	50-093-4125
	39	Ass'y Motor	50-093-4316
	41	Belt BR	02-084-4205
	42	Belt AR	02-084-4203
	43	Belt FR	02-083-4188
	45	PCB HD	50-070-4057
	46	Housing	S5BPHKS
	47	Housing	S3BPHKS
	48	Pulley IDL	50-223-4023
	50	Ass'y PCB	50-093-4363
	51	Ass'y Flywheel L	50-093-3367
	52	Ass'y Flywheel RB	50-093-3361
	53	Pulley	33-229-4264

Mark	No.	Description	Part No.
	60	Spring	01-081-4601
	61	Spring	01-082-4652
	62	Spring	01-082-4651
	63	Spring	01-082-4650
	64	Spring	01-080-4649
	65	Spring	01-080-4607
	66	Spring	01-080-4635
	67	Spring	01-082-4654
	68	Spring	01-082-4598
	69	Spring	01-082-4597
	70	Spring	01-081-4657
	80	Screw	GSE10A2003
	81	Screw	GSE20A2005
	82	Screw	GSE10A2004
	83	Screw	GSD10A2018
	84	Screw	03-300-4056
	85	Screw	GSL10A1704
	86	Screw	GSP10A2603
	87	Screw	GSP11A2012
	88	Screw	GSE20A2004
	100	Washer	GWN21X040040
	101	Washer	GWM19X055035S
	102	Washer	GWM19S035035
	103	Washer	GWM17S050035S
	104	Washer	GWM48X075010
	105	Washer	GWP23X040020
	106	Washer	GWP21X045020
	107	Washer	GWP12X030040S

• DECK MECHANISM UNIT (1/2)

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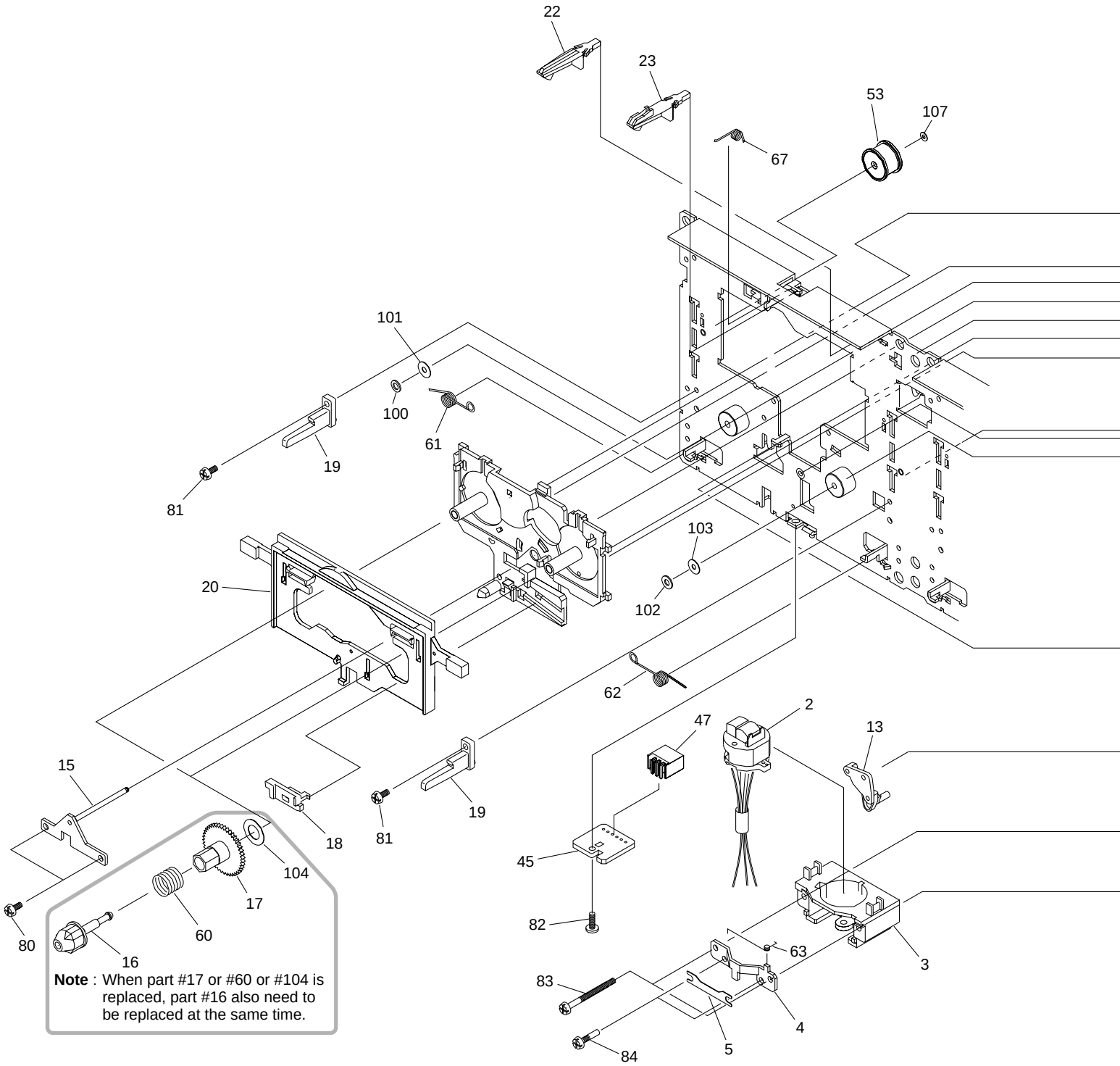
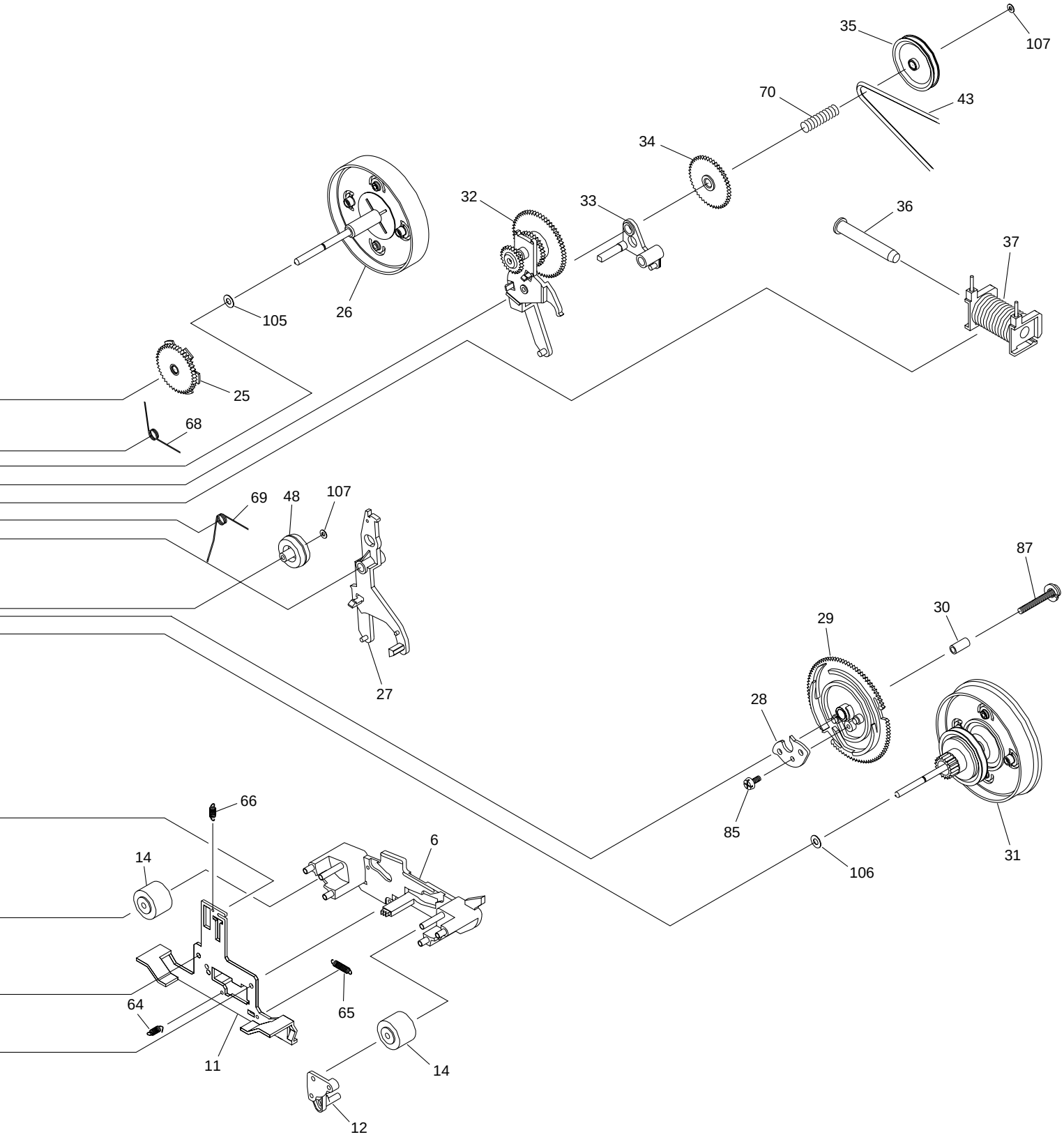
• DECK MECHANISM UNIT (2/2)

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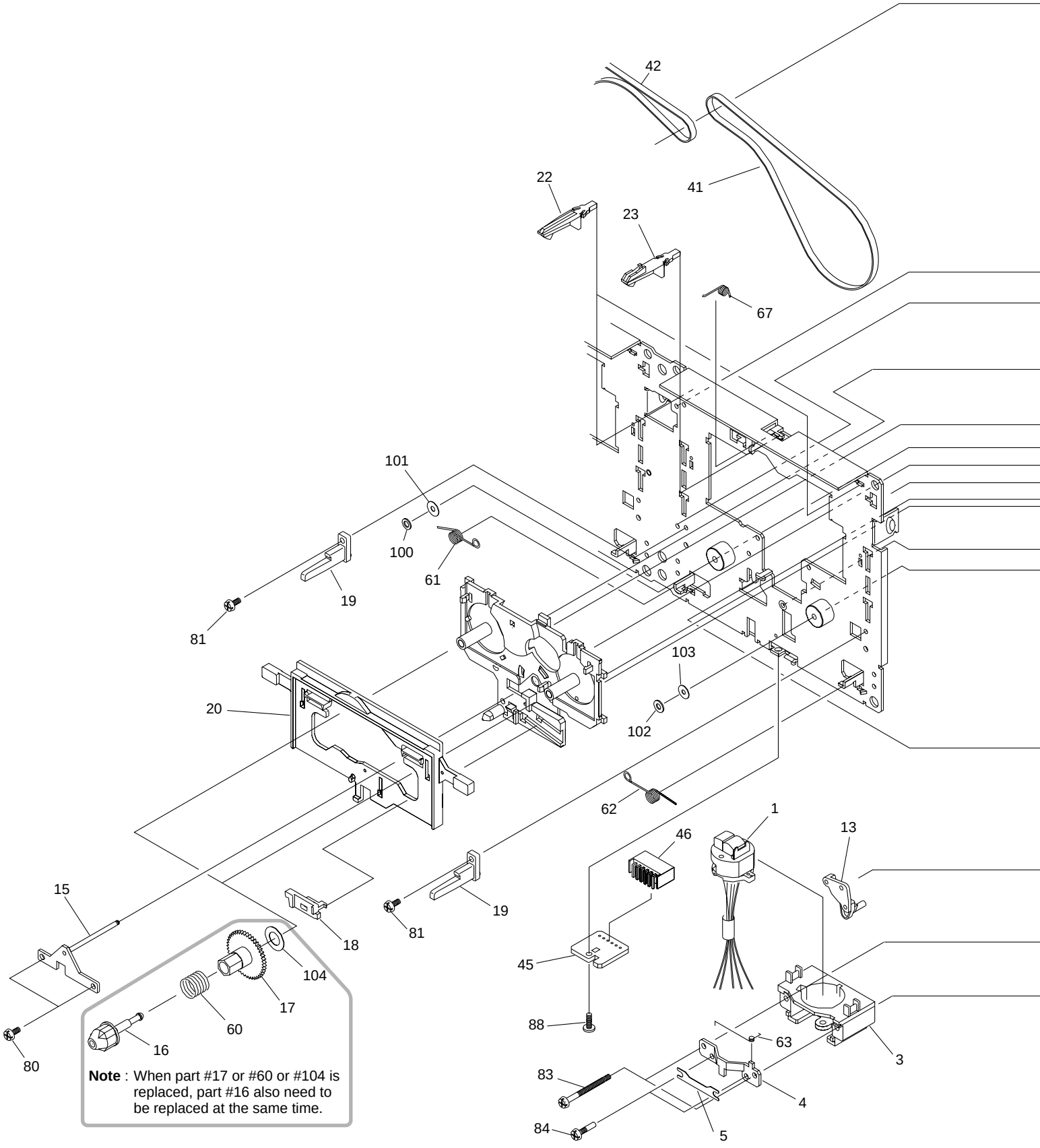
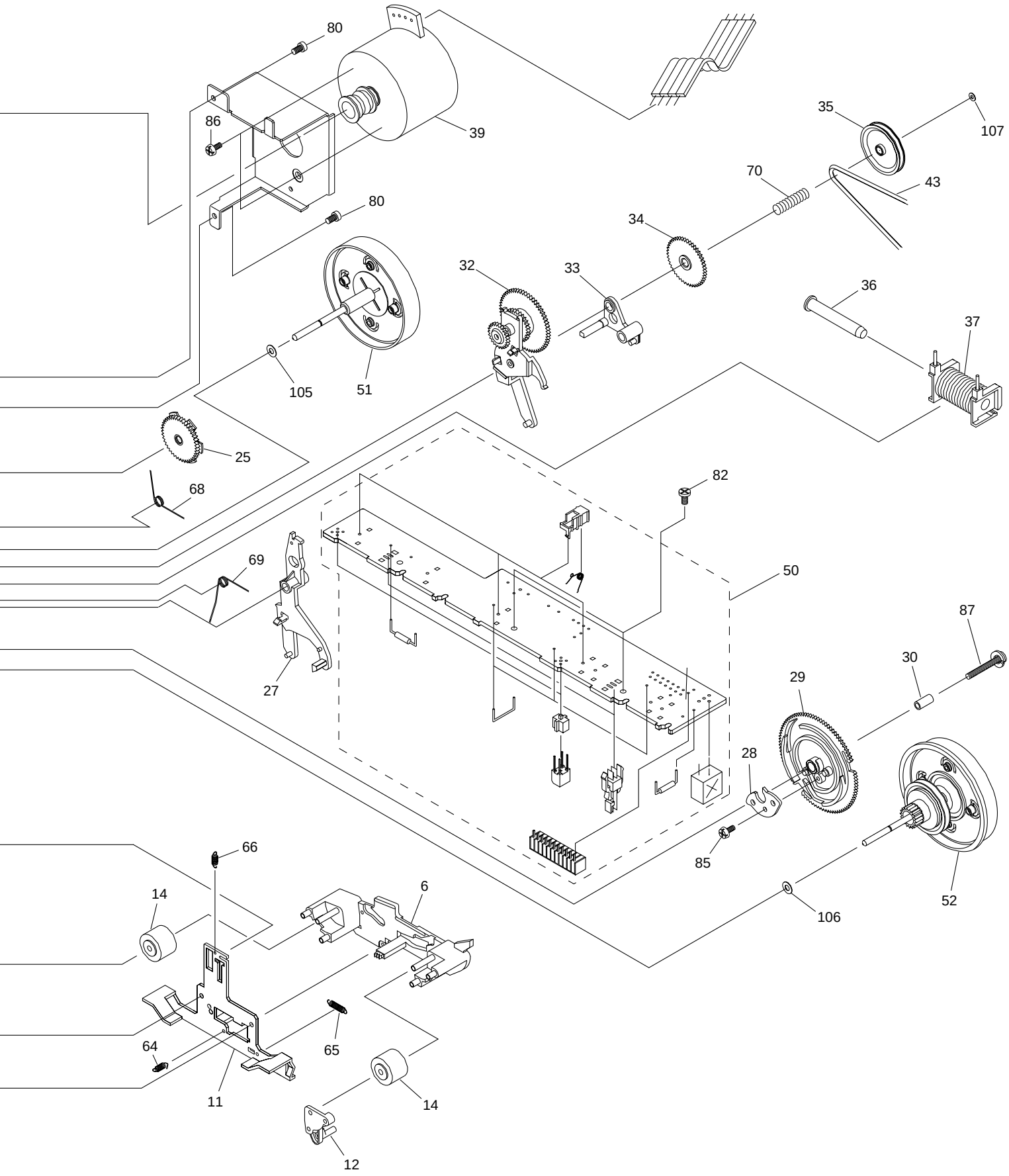
2.6.2 XYM3011

• DECK MECHANISM UNIT (1/2)

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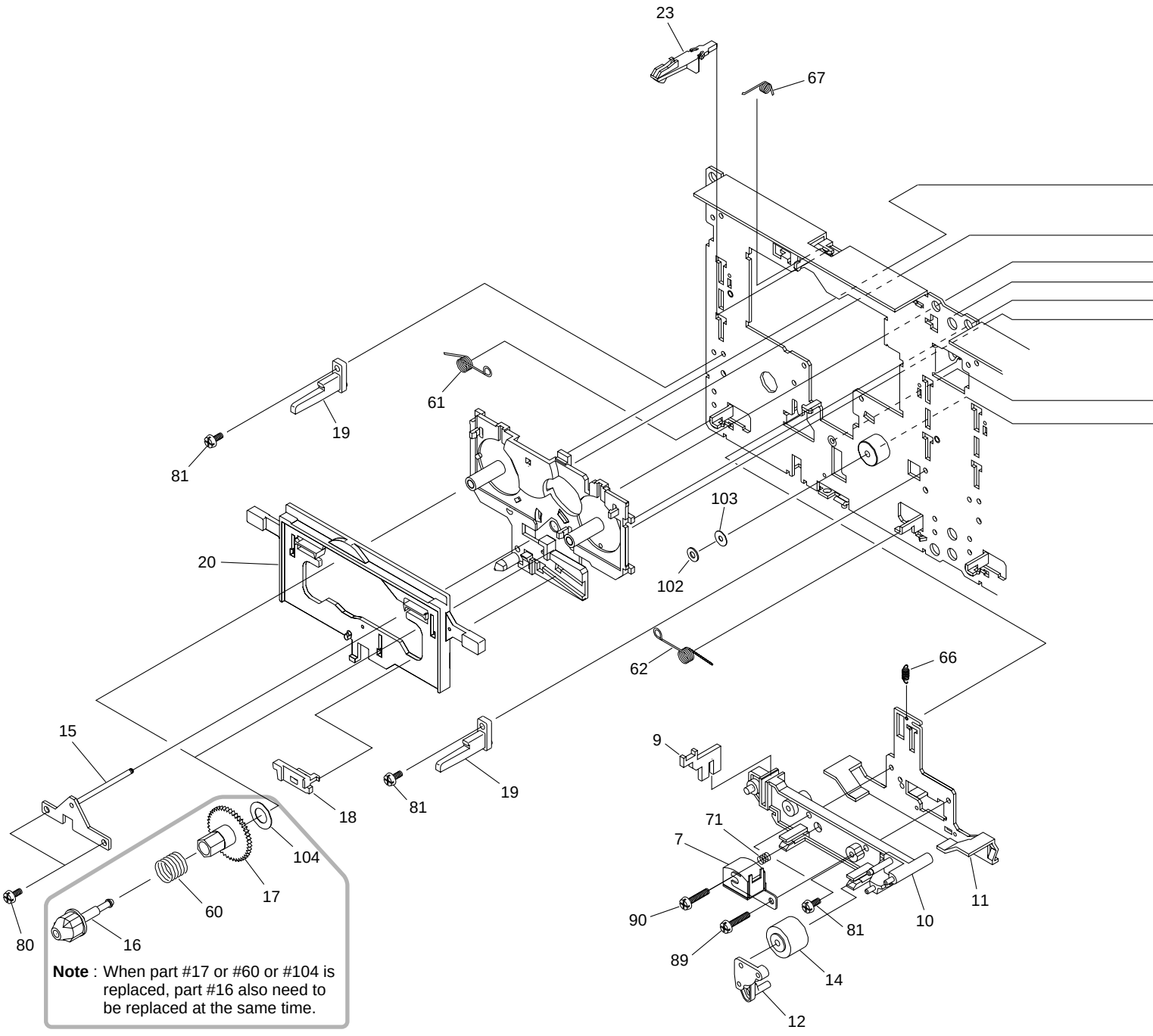
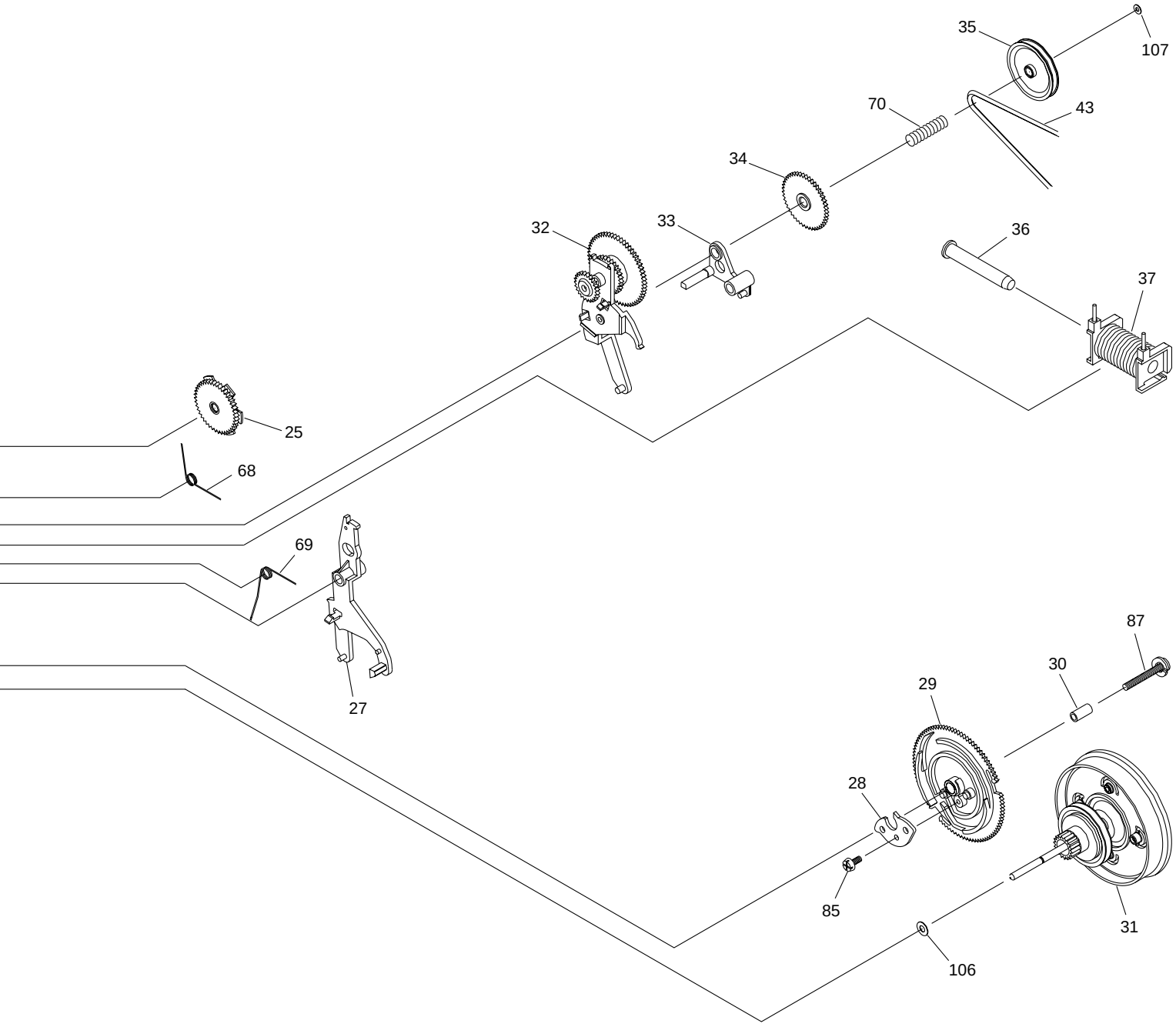
• DECK MECHANISM UNIT (2/2)

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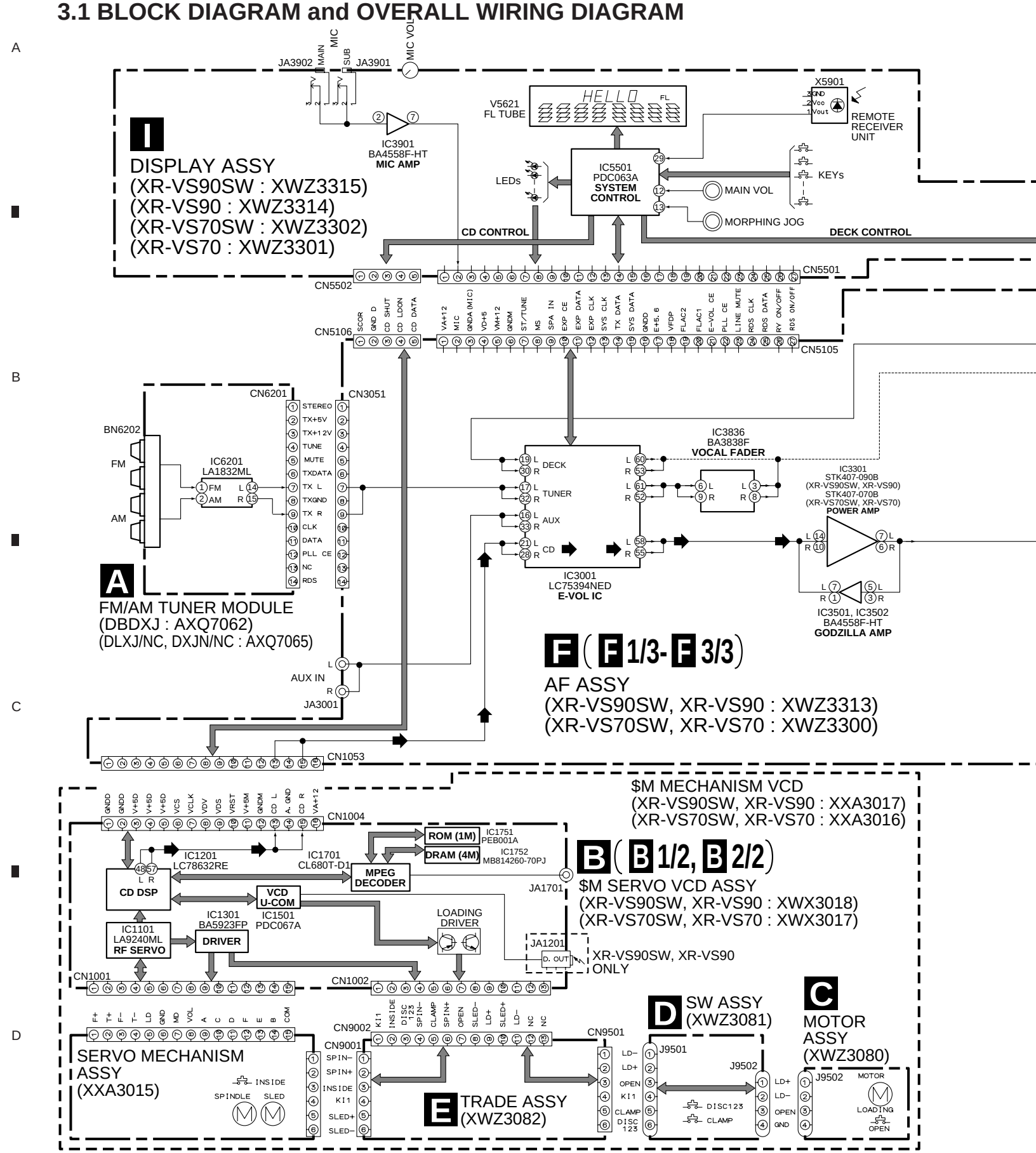
● DECK MECHANISM UNIT (XYM3011) PARTS LIST

Mark	No.	Description	Part No.
	1	Assy'y HD Holder	50-093-4373
	3	Frame HD	50-219-3024
	4	Plate AZ	50-119-4046
	5	Spring AZ	50-160-4108
	6	Lever HD	50-259-3342
	7	R/P Head	TC881CB067B
	9	Guide Tape	50-219-4038
	10	Plate HD	50-093-3036
	11	Chassis HD	50-112-3045
	12	Cap Pinch R	50-219-4033
	13	Cap Pinch L	50-219-4034
	14	Roller Pinch	50-027-41054
	15	Ass'y Plate D	50-219-4311
	16	Cap Reel	50-228-4020
	17	Gear Reel	50-222-4006
	18	Lever ST	50-259-4041
	19	Guide C	50-219-4014
	20	Lever Brake	50-259-3251
	22	Arm SW	50-239-4027
	23	Arm CS	50-239-4026
	25	Ass'y Cover	50-093-4063
	27	Arm Trigger	50-268-3016
	28	Arm Cam	50-139-4292
	29	Gear Cam	50-221-3009
	30	Coller	03-300-4455
	31	Ass'y Flywheel RA	50-093-3360
	32	Ass'y Clutch	50-093-4069
	33	Arm UD A	50-239-4017
	34	Gear UD	50-222-4007
	35	Pulley D	50-223-4254
	36	Plunger	03-300-4442
	37	Ass'y Bobbin	50-093-4125
	39	Ass'y Motor	50-093-4316
	41	Belt BR	02-084-4205
	42	Belt AF	02-084-4202
	43	Belt FR	02-083-4188
	45	PCB HD	50-070-4057
	46	Housing	S5BPHKS
	50	Ass'y PCB	50-093-4057
	51	Ass'y Flywheel L	50-093-3315
	52	Ass'y Flywheel RB	50-093-3361

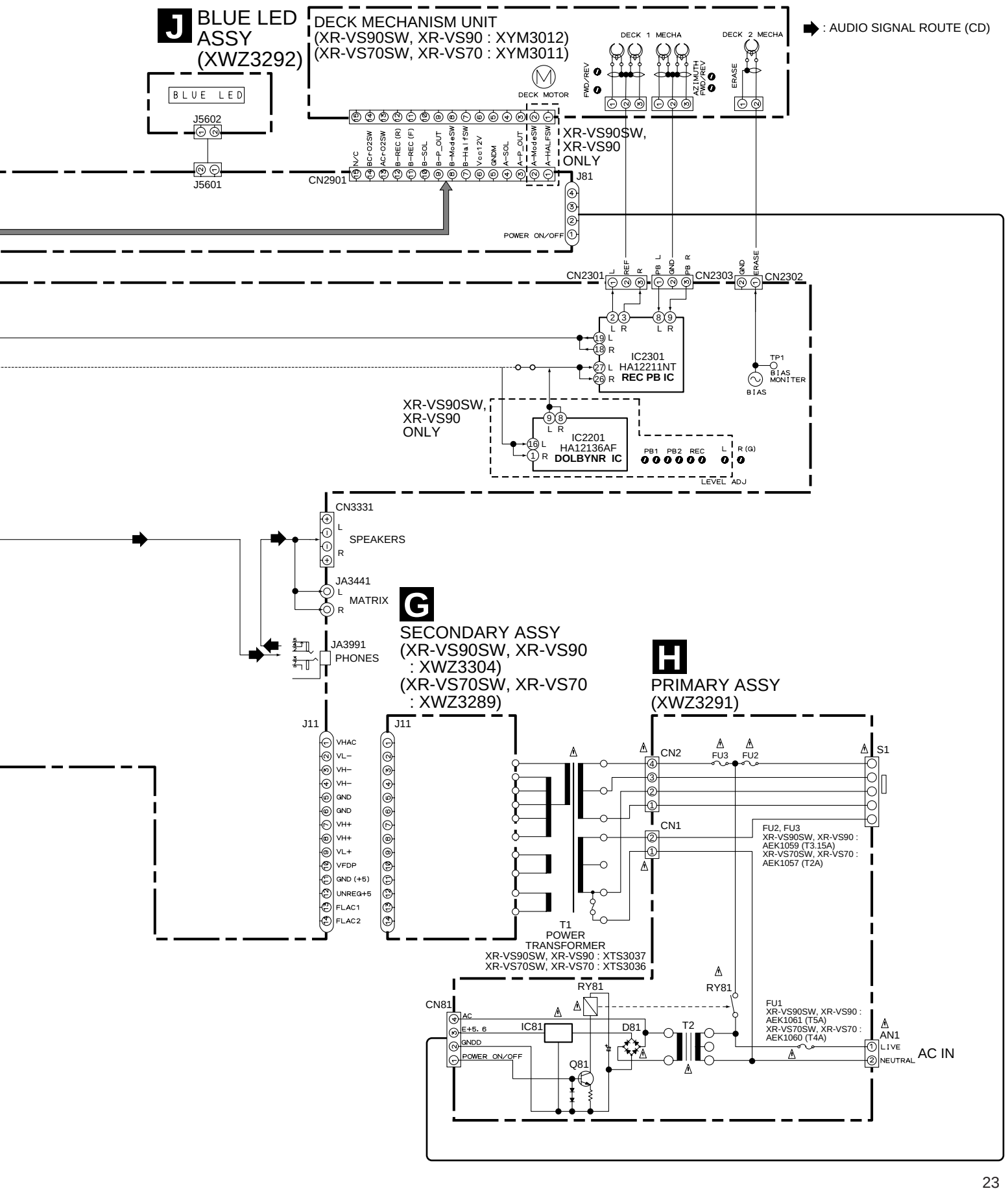
Mark	No.	Description	Part No.
	60	Spring	01-081-4601
	61	Spring	01-082-4652
	62	Spring	01-082-4651
	63	Spring	01-082-4650
	64	Spring	01-080-4649
	65	Spring	01-080-4607
	66	Spring	01-080-4635
	67	Spring	01-082-4654
	68	Spring	01-082-4598
	69	Spring	01-082-4597
	70	Spring	01-081-4657
	71	Spring	01-081-4605
	80	Screw	GSE10A2003
	81	Screw	GSE20A2005
	82	Screw	GSE10A2004
	83	Screw	GSD10A2018
	84	Screw	03-300-4056
	85	Screw	GSL10A1704
	86	Screw	GSP10A2603
	87	Screw	GSP11A2012
	88	Screw	GSE20A2004
	89	Screw	GSL20A2005
	90	Screw	03-300-4127
	100	Washer	GWN21X040040
	101	Washer	GWM19X055035S
	102	Washer	GWM19S035035
	103	Washer	GWM17S050035S
	104	Washer	GWM48X075010
	105	Washer	GWP23X040020
	106	Washer	GWP21X045020
	107	Washer	GWP12X030040S

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

3.1 BLOCK DIAGRAM and OVERALL WIRING DIAGRAM

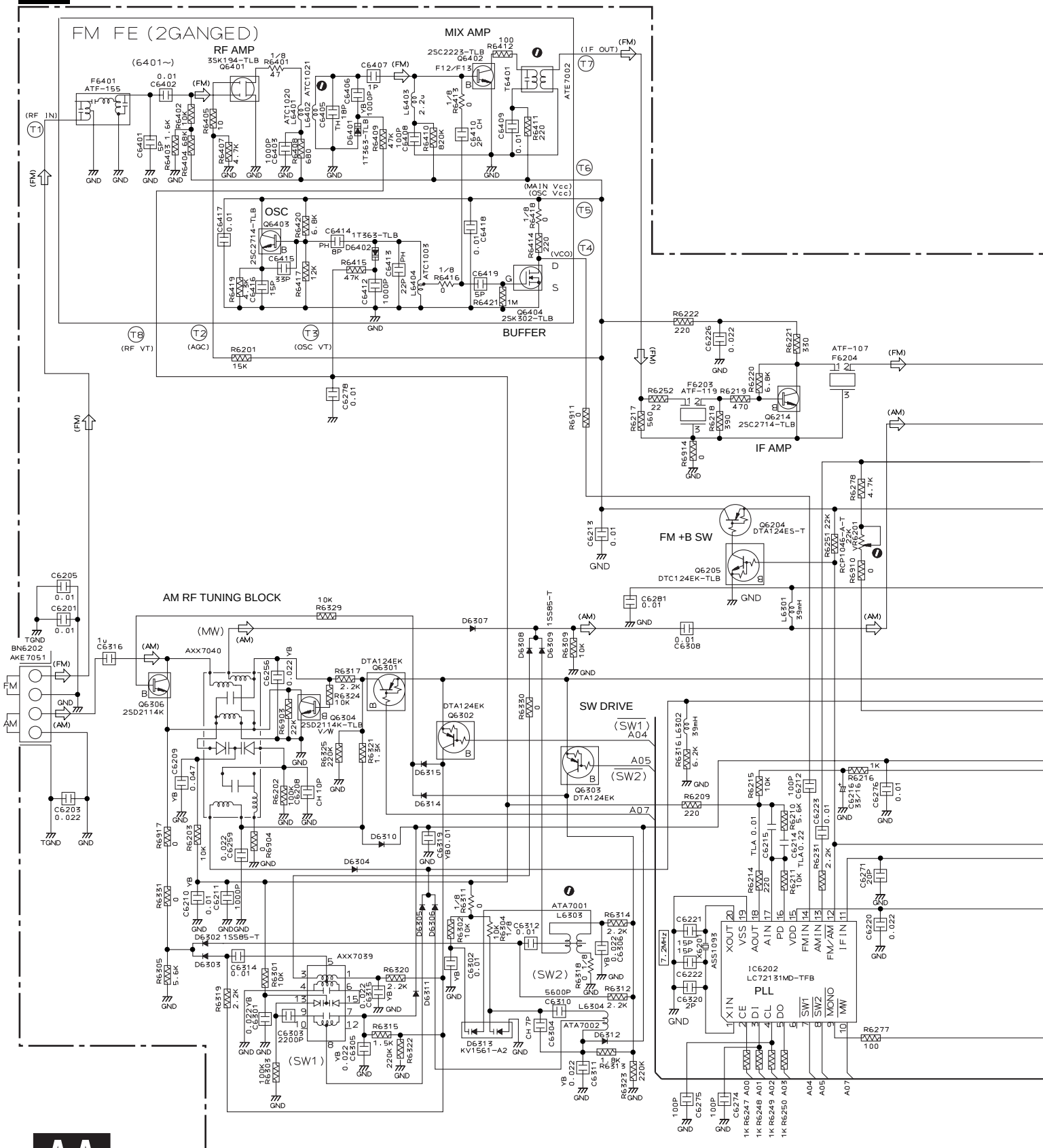


Note : When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".



3.2 FM/AM TUNER MODULE (For DBDXJ Type)

AA FM/AM TUNER MODULE (AXQ7062)



SIGNAL ROUTE

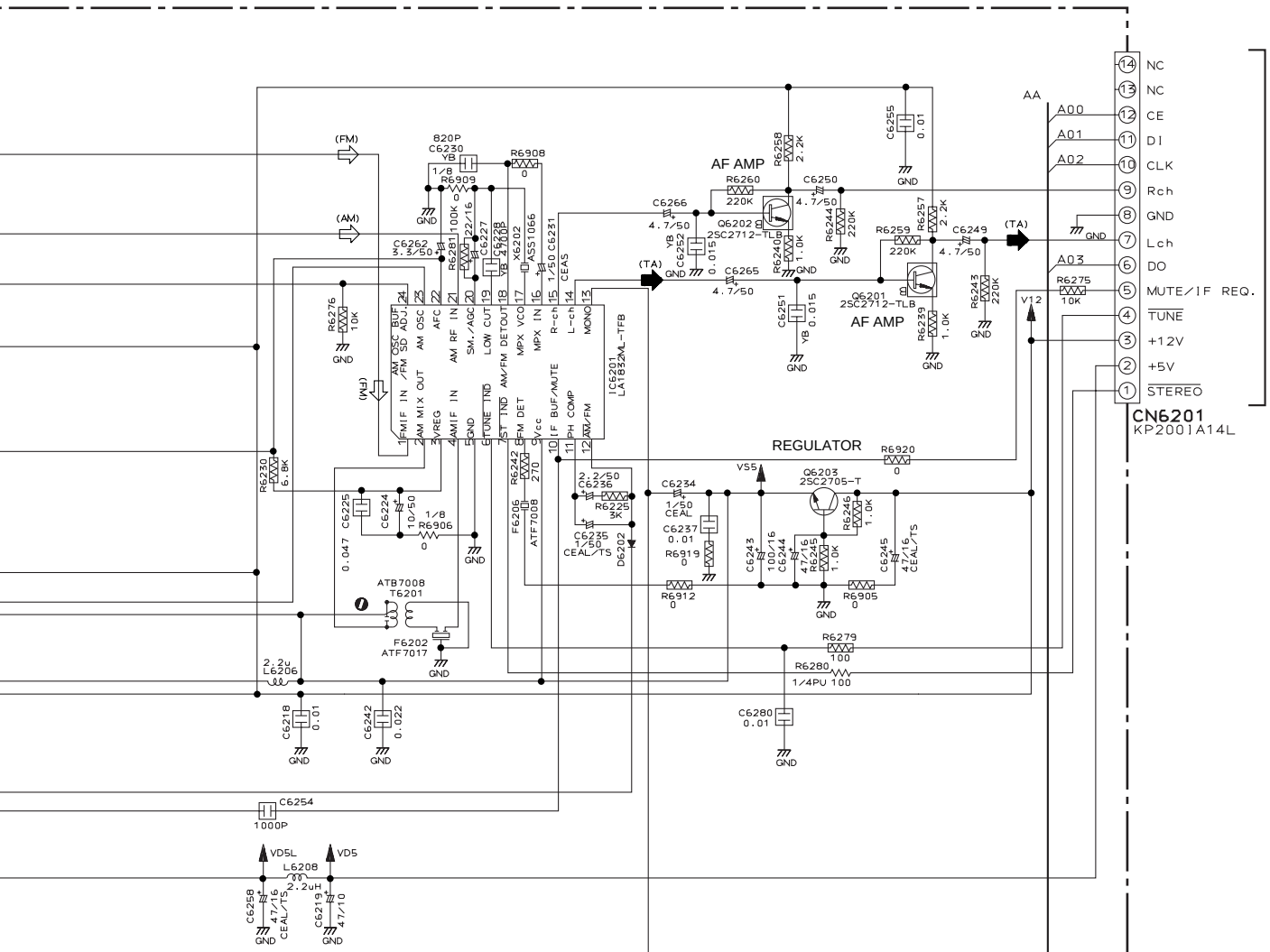
(AM) : AM SIGNAL ROUTE

(FM) : FM SIGNAL ROUTE

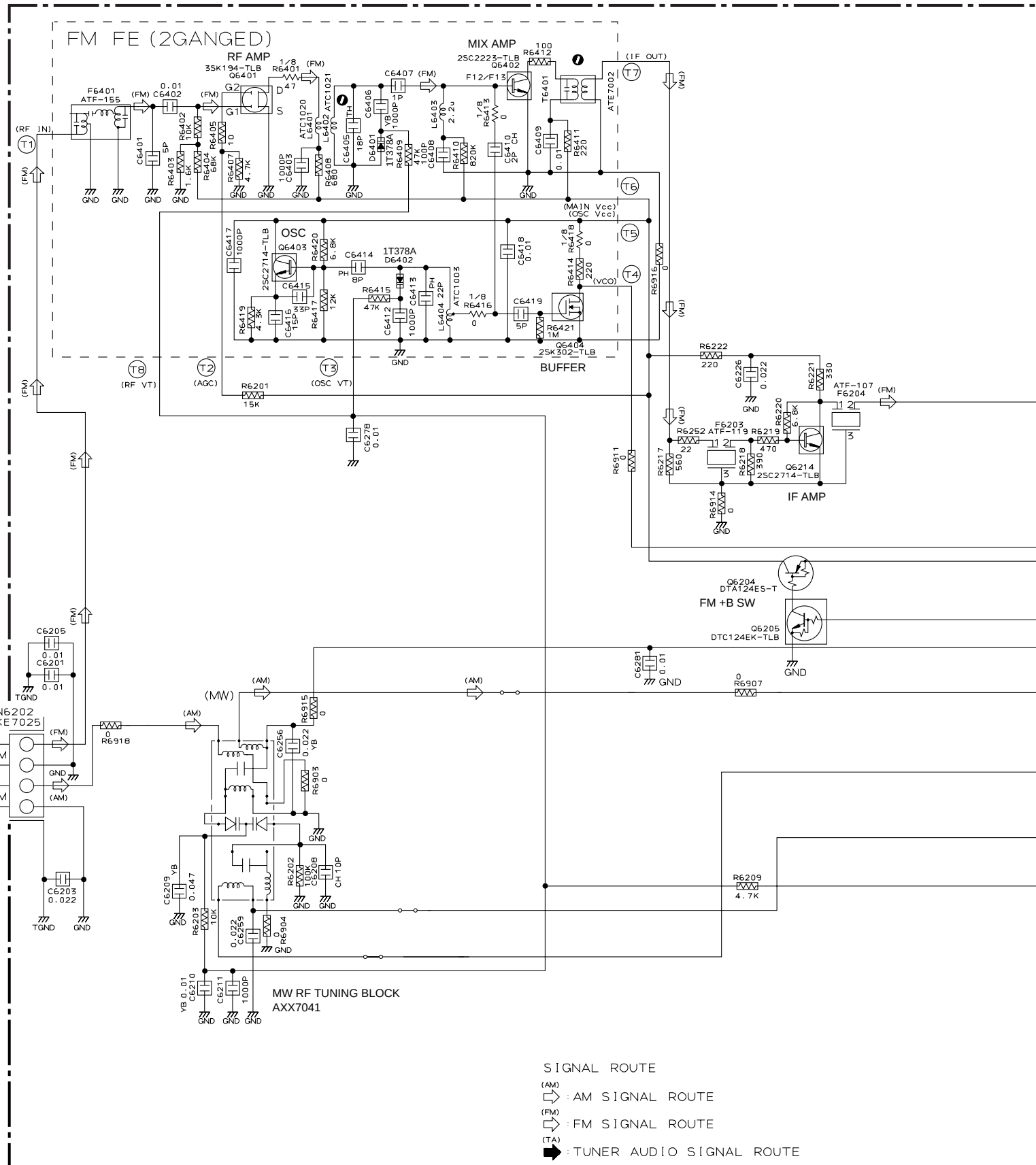
(TA) : TUNER AUDIO SIGNAL ROUTE

Notes

1. RESISTORS
   Indicated in Ω, 1/10W±5% Tolerance unless otherwise noted K:KΩ, M:MΩ.
2. CAPACITORS
   Indicated in Capacity(μF)/VOLTAGE(V) unless otherwise noted P:PF.
3. DIODES
   No mark diode is 1SS254.



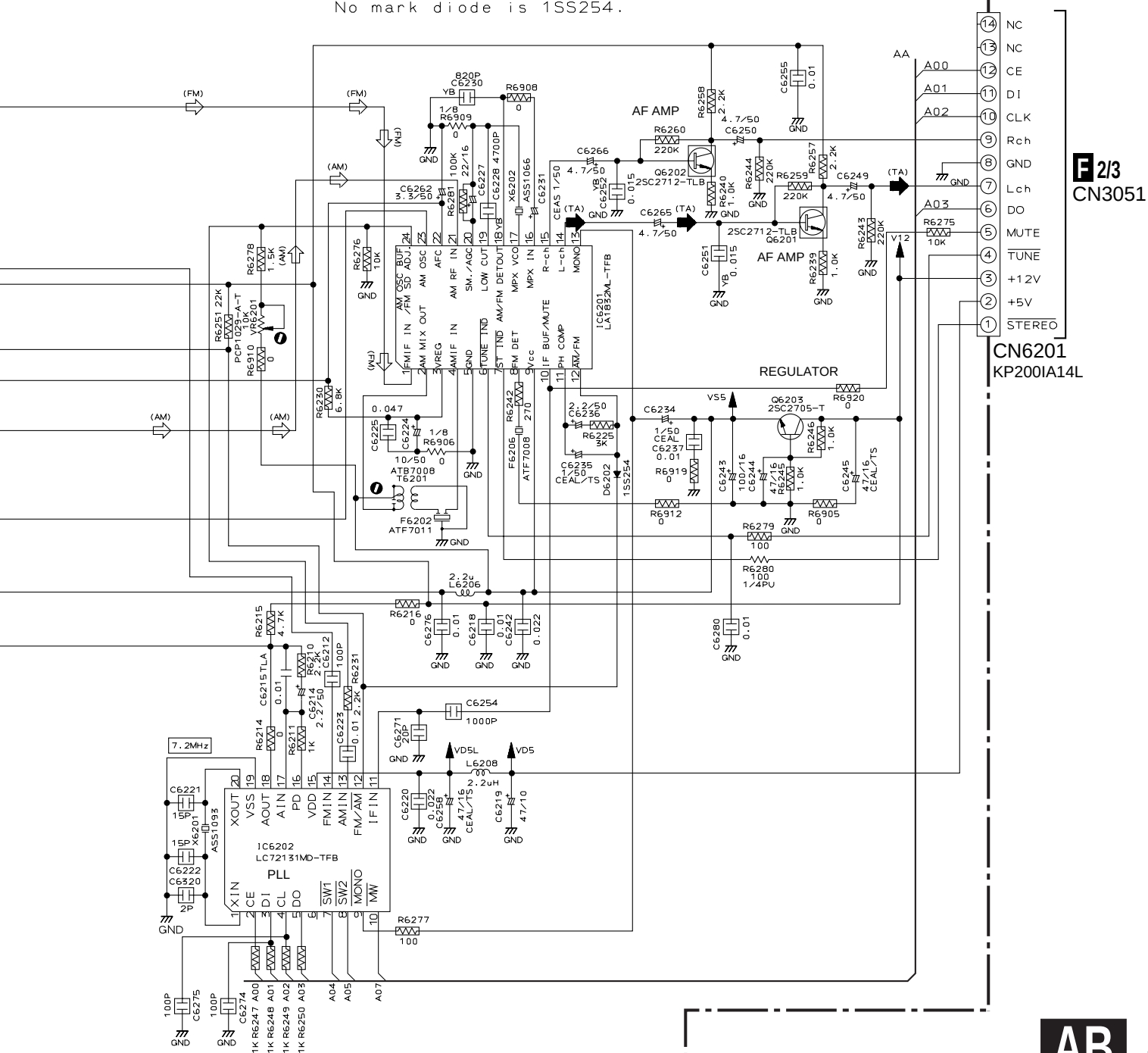
3.3 FM/AM TUNER MODULE (For DLXJ/NC and DXJN/NC Types)



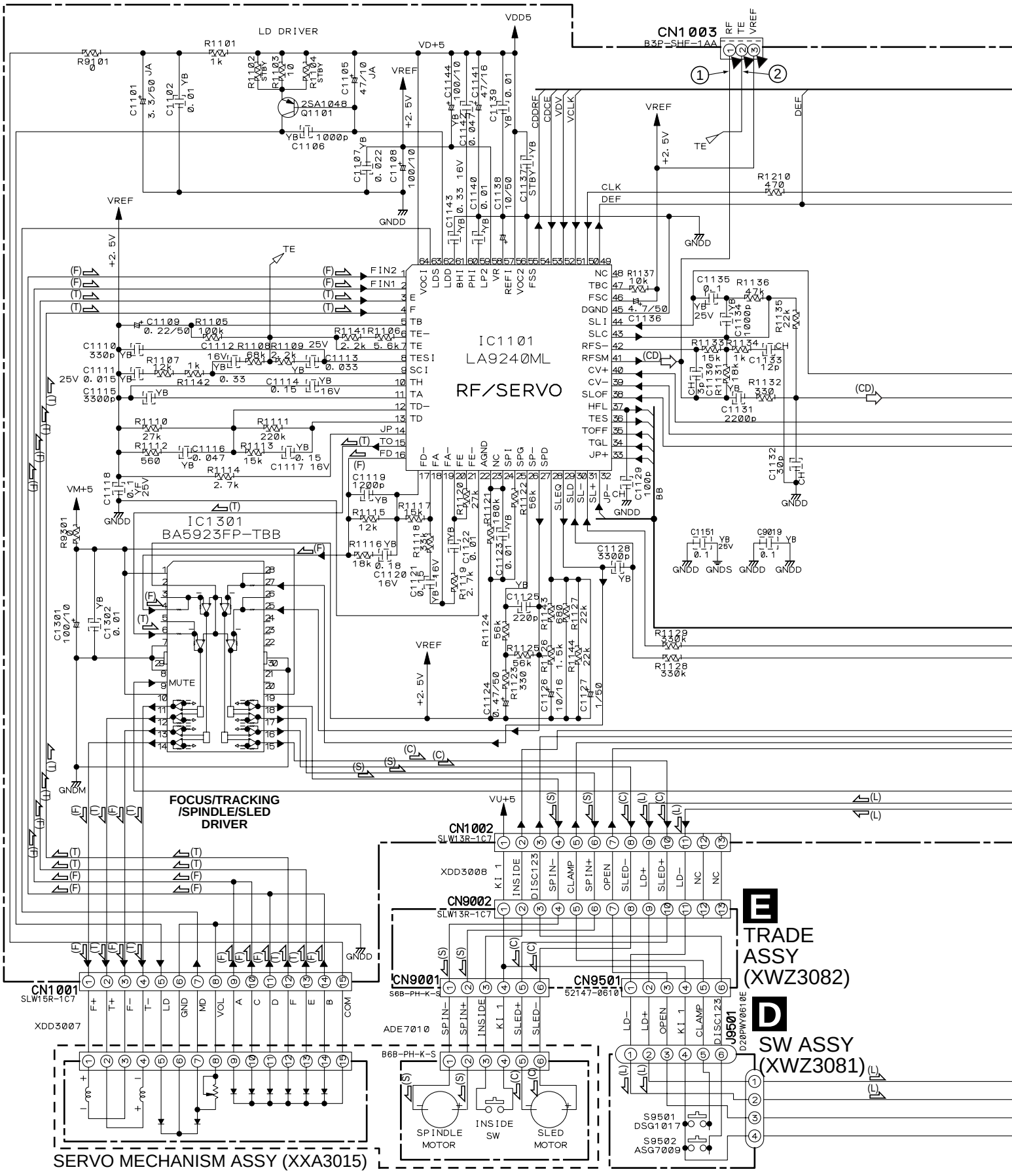
AB FM/AM TUNER MODULE (AXQ7065)

Notes

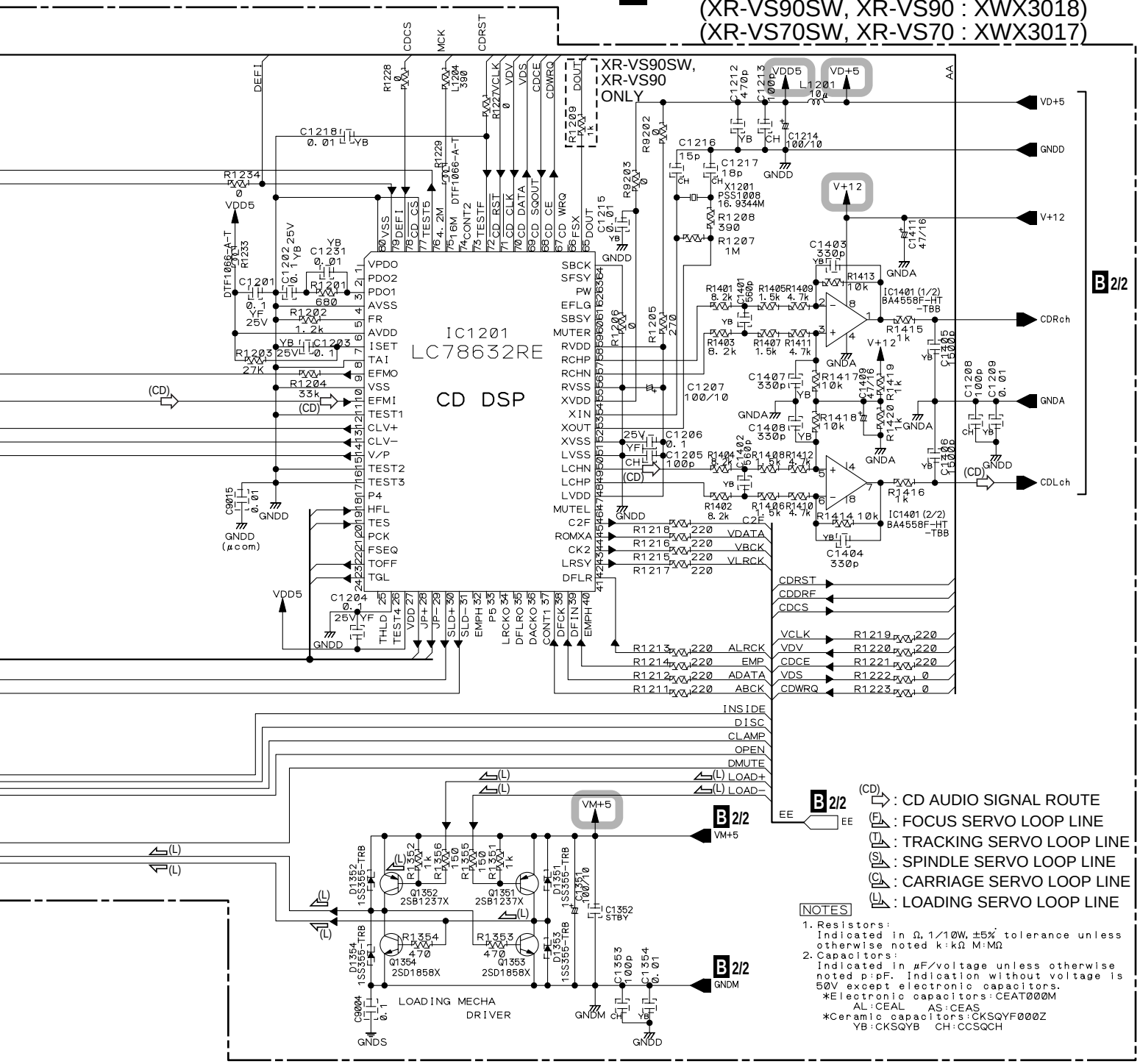
1. RESISTORS
   Indicated in Ω, 1/10W±5% Tolerance unless otherwise noted K:KΩ, M:MΩ.
2. CAPACITORS
   Indicated in Capacity(μF)/VOLTAGE(V) unless otherwise noted P:PF.
3. DIODES
   No mark diode is 1SS254.



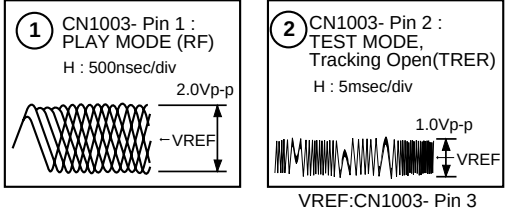
3.4 $M SERVO VCD (1/2), MOTOR, SW and TRADE ASSYS

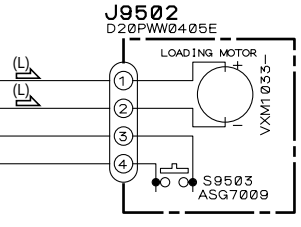


B 1/2 $M SERVO VCD ASSY
(XR-VS90SW, XR-VS90 : XWX3018)
(XR-VS70SW, XR-VS70 : XWX3017)


XR-VS90SW, XR-VS90 ONLY
IC1201
LC78632RE
CD DSP
LOADING MECHA DRIVER
B 2/2
(CD) : CD AUDIO SIGNAL ROUTE
(F) : FOCUS SERVO LOOP LINE
(T) : TRACKING SERVO LOOP LINE
(S) : SPINDLE SERVO LOOP LINE
(C) : CARRIAGE SERVO LOOP LINE
(L) : LOADING SERVO LOOP LINE
NOTES
1. Resistors: Indicated in Ω, 1/10W, ±5% tolerance unless otherwise noted k:kΩ M:MΩ
2. Capacitors: Indicated in μF/voltage unless otherwise noted p:pF. Indication without voltage is 50V except electronic capacitors.
*Electronic capacitors:CEAT000M
AL:CEAL AS:CEAS
*Ceramic capacitors:CKSQYF000Z
YB:CKSQYB CH:CCSQCH

Note: The encircled numbers denote measuring point in the schematic diagram.

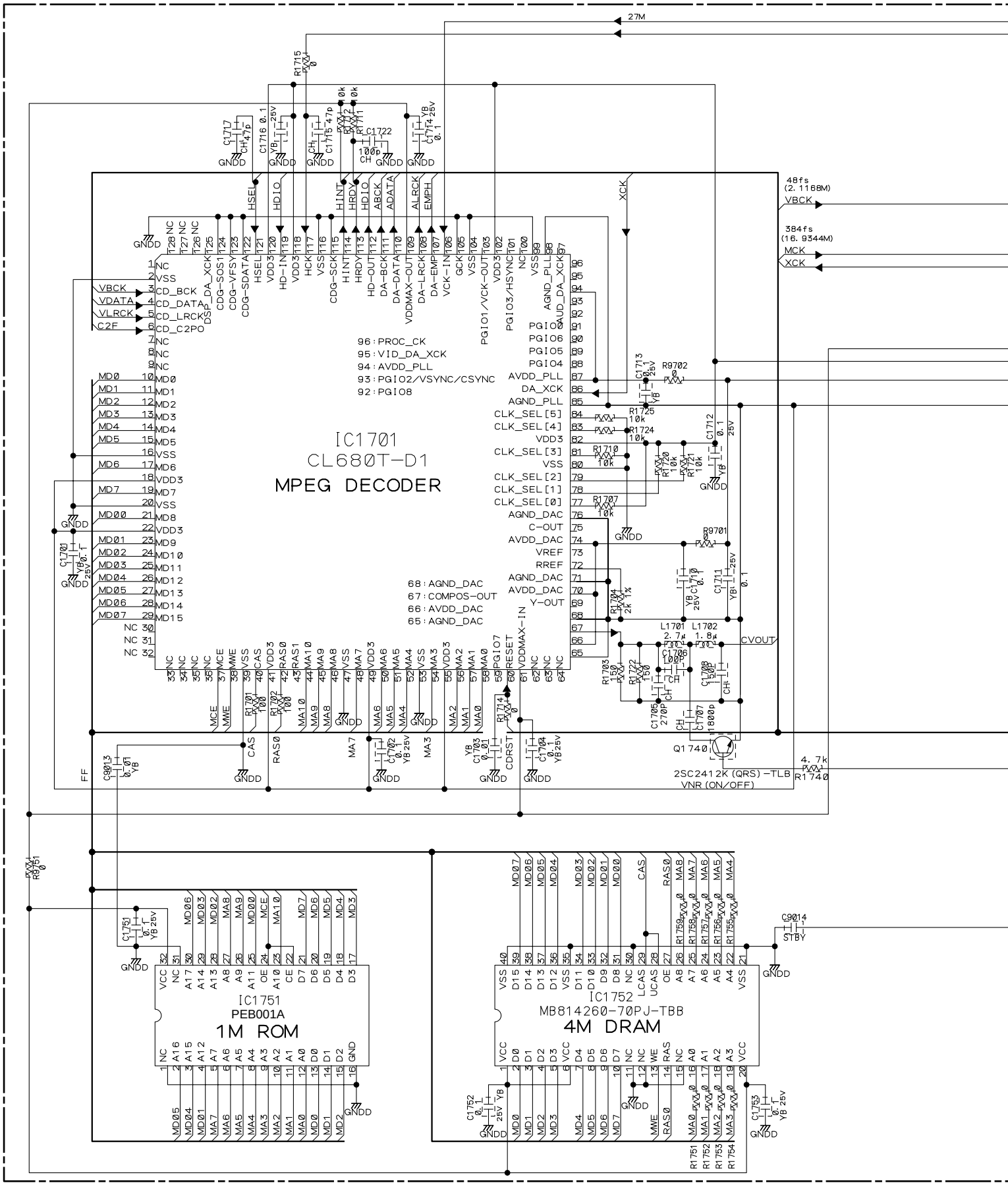




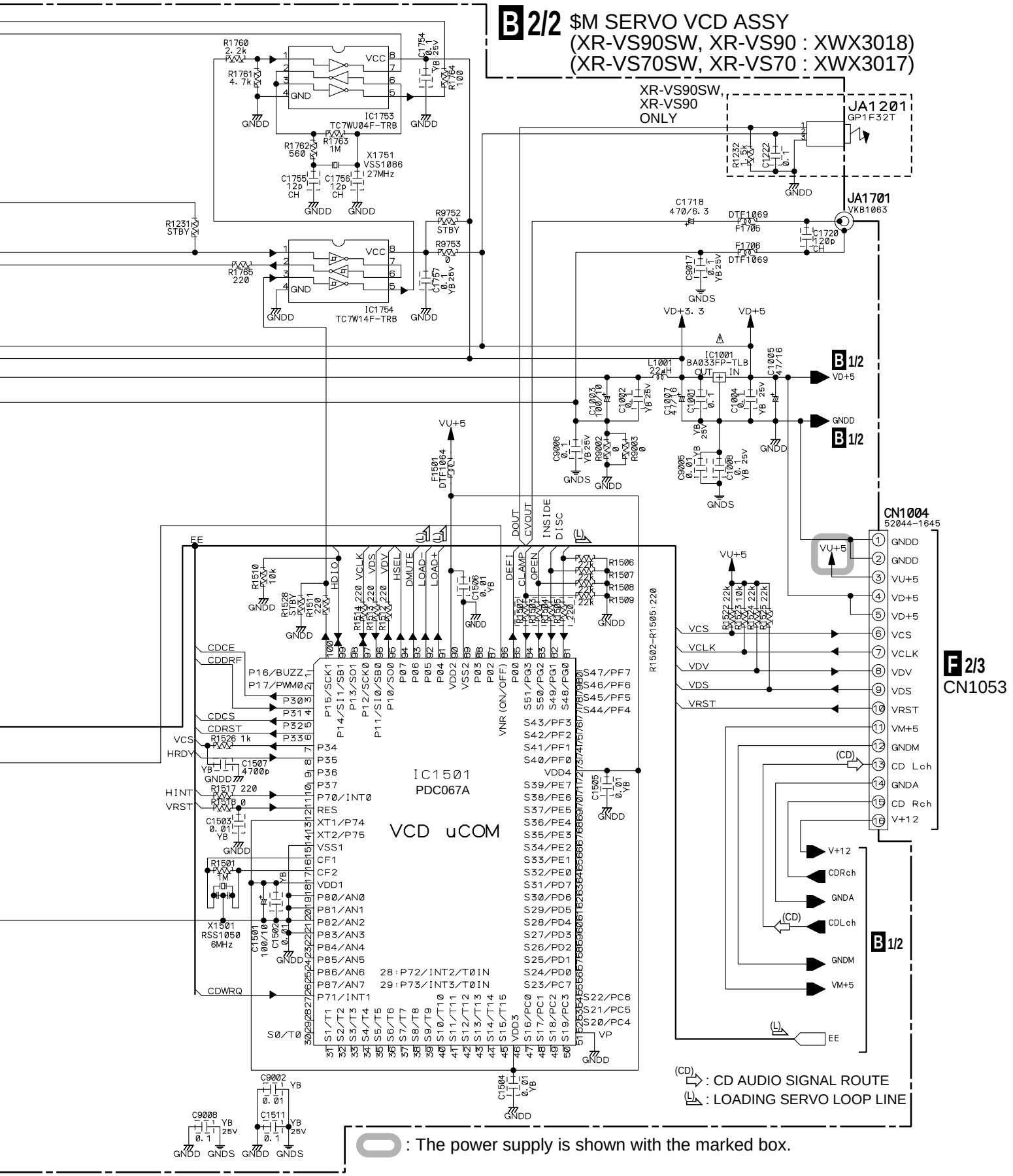
C MOTOR ASSY (XWZ3080)

: The power supply is shown with the marked box.

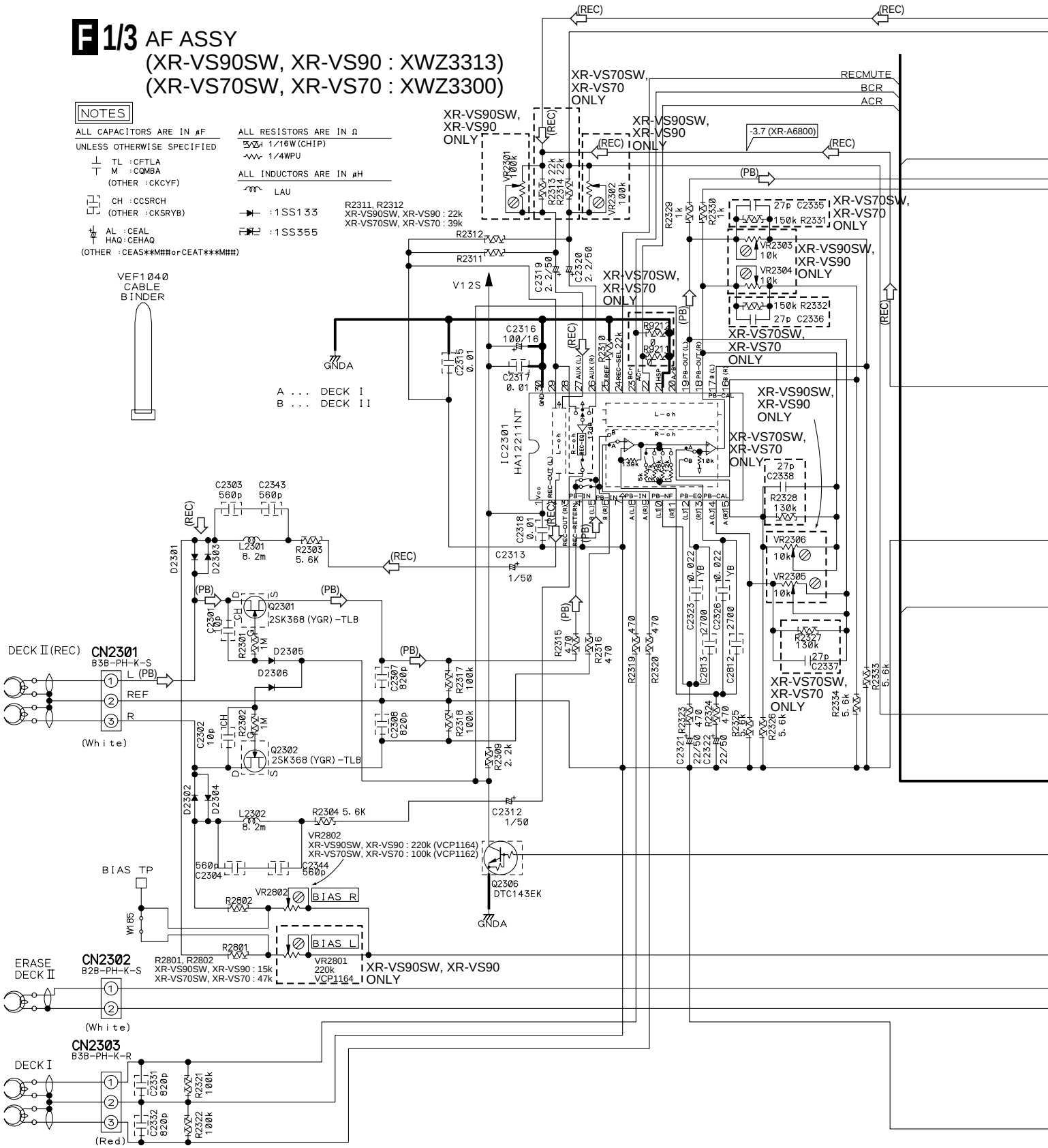
3.5 $M SERVO VCD ASSY (2/2)

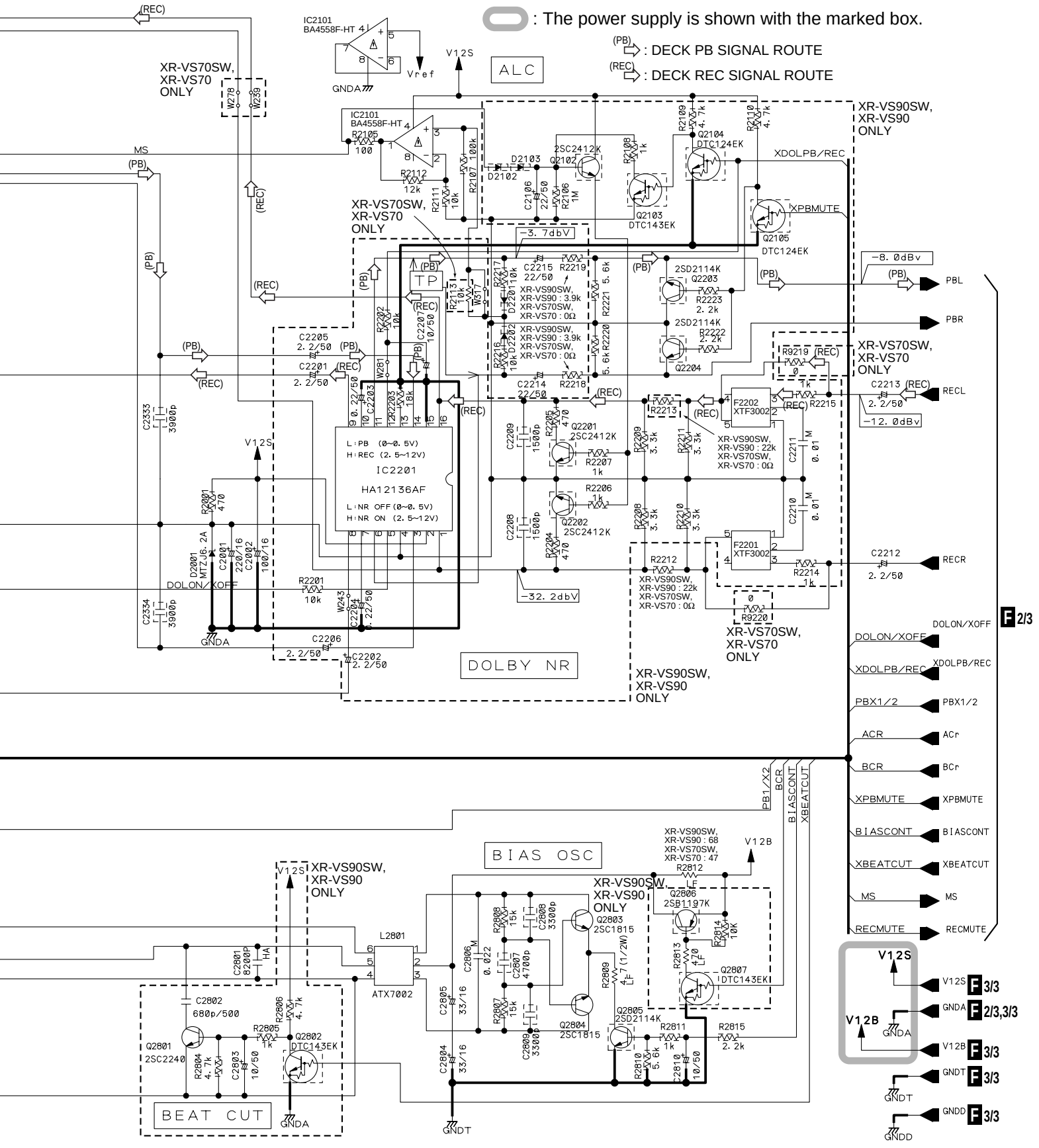


B 2/2 $M SERVO VCD ASSY
(XR-VS90SW, XR-VS90 : XWX3018)
(XR-VS70SW, XR-VS70 : XWX3017)

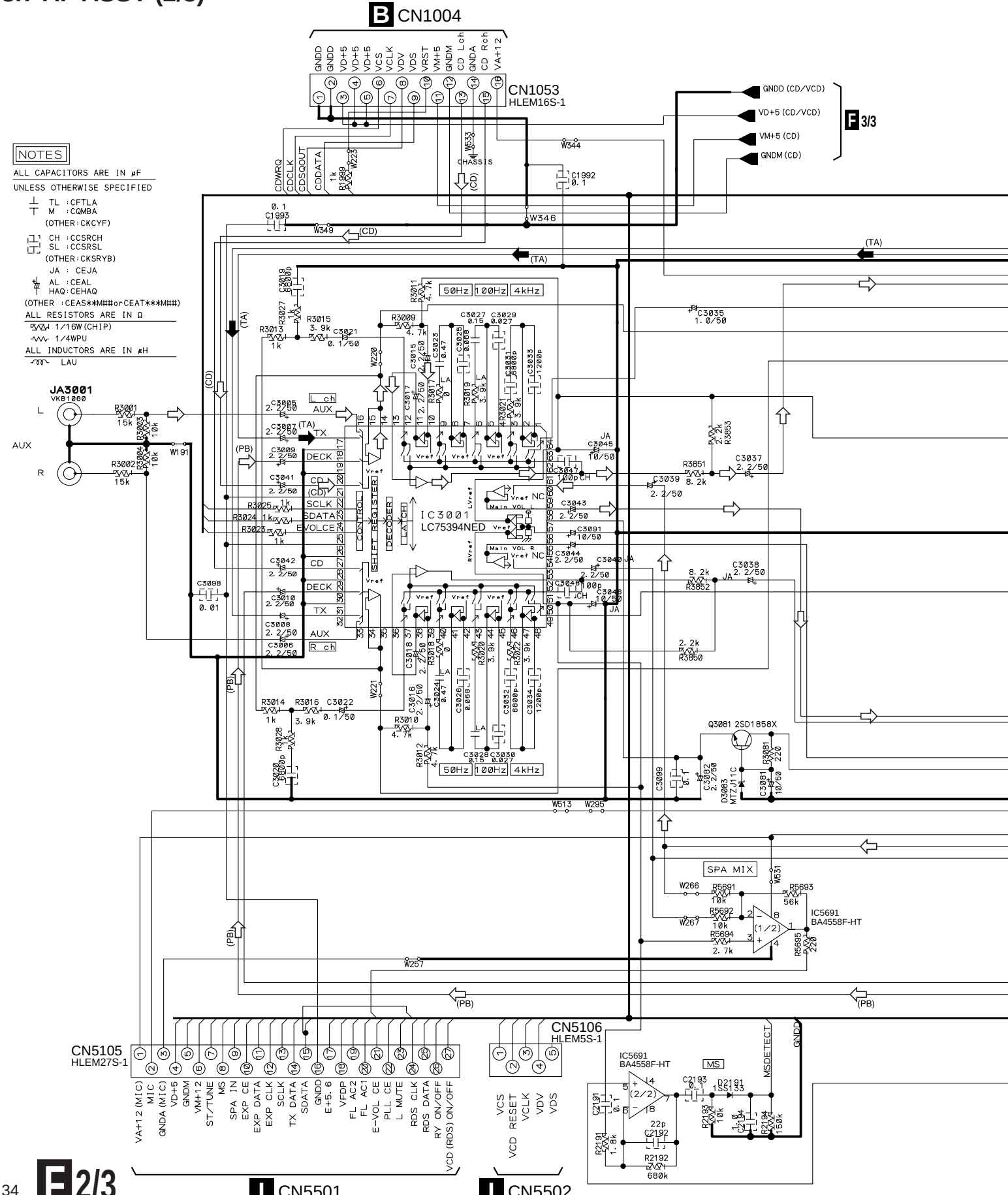


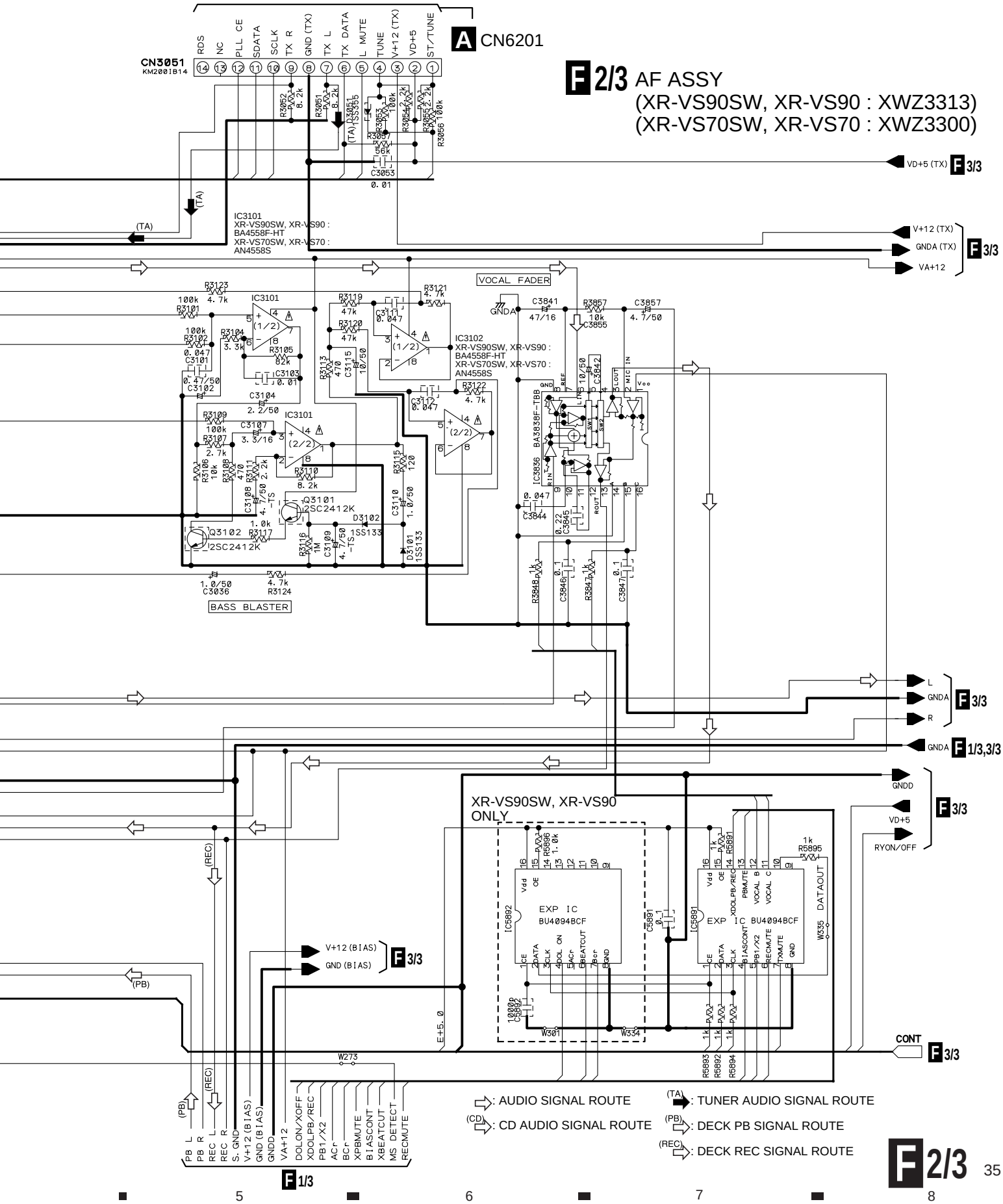
3.6 AF ASSY (1/3)


F 1/3 AF ASSY
(XR-VS90SW, XR-VS90 : XWZ3313)
(XR-VS70SW, XR-VS70 : XWZ3300)
NOTES
ALL CAPACITORS ARE IN µF
UNLESS OTHERWISE SPECIFIED
TL :CFTLA
M :CQMBA
(OTHER :CKCYF)
CH :CCSRCH
(OTHER :CKSRYB)
AL :CEAL
HAQ:CEHAQ
(OTHER :CEAS**M##orCEAT***M##)
ALL RESISTORS ARE IN Ω
1/16W(CHIP)
1/4WPU
ALL INDUCTORS ARE IN µH
LAU
:1SS133
:1SS355
R2311, R2312
XR-VS90SW, XR-VS90 : 22k
XR-VS70SW, XR-VS70 : 39k
VEF1040
CABLE
BINDER
A ... DECK I
B ... DECK II
XR-VS90SW, XR-VS90 ONLY
XR-VS70SW, XR-VS70 ONLY
RECMUTE
BCR
ACR
-3.7 (XR-A6800)
IC2301
HA12211NT
DECK II (REC)
CN2301
B3B-PH-K-S
L (PB)
REF
R
(White)
CN2302
B2B-PH-K-S
ERASE
DECK II
(White)
CN2303
B3B-PH-K-R
DECK I
(Red)
BIAS TP
BIAS R
BIAS L
VR2802
XR-VS90SW, XR-VS90 : 220k (VCP1164)
XR-VS70SW, XR-VS70 : 100k (VCP1162)
R2801, R2802
XR-VS90SW, XR-VS90 : 15k
XR-VS70SW, XR-VS70 : 47k
VR2801
220k
VCP1164
Q2306
DTC143EK
Q2301
2SK368(YGR)-TLB
Q2302
2SK368(YGR)-TLB
GNDA
V12S

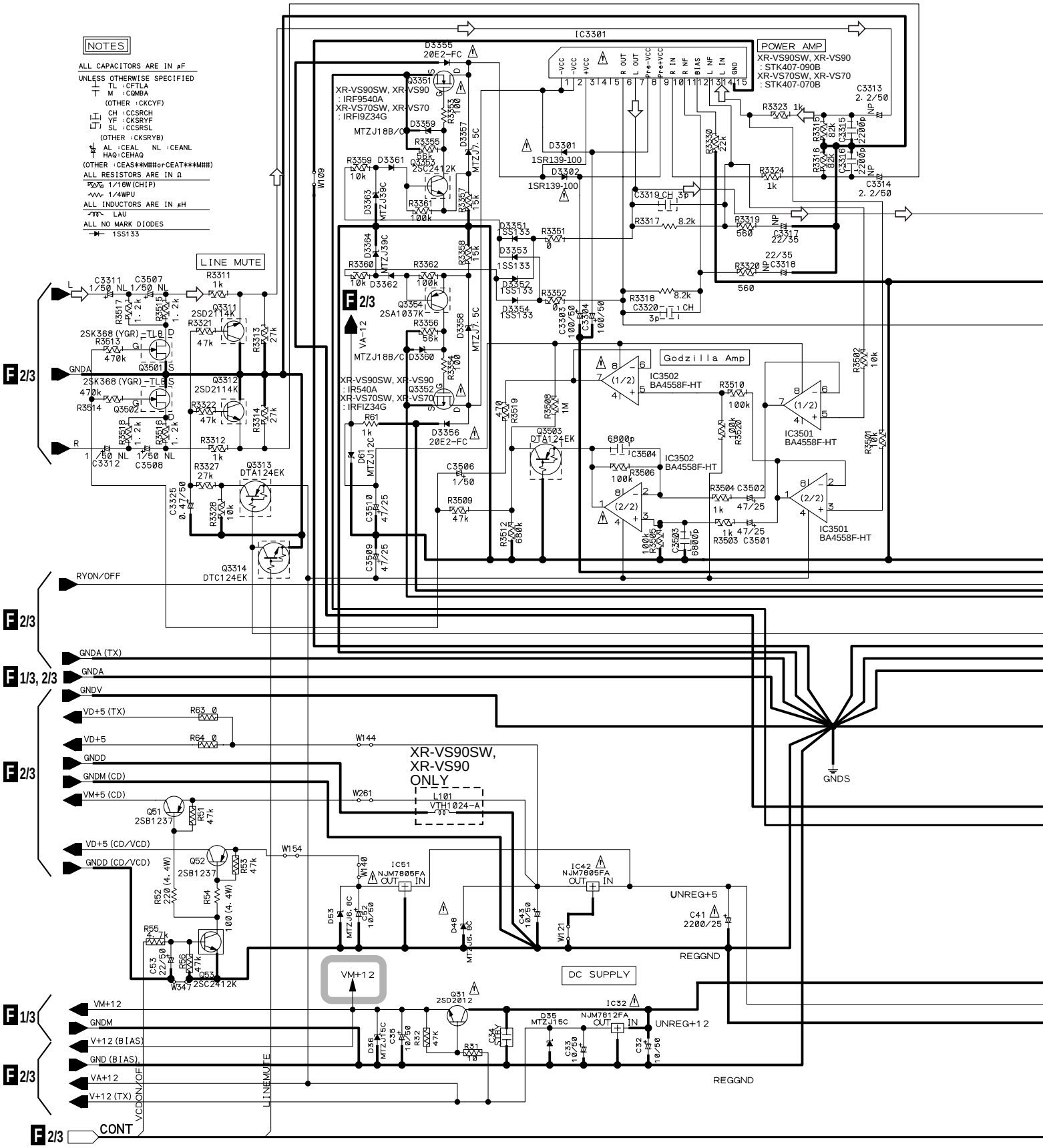

: The power supply is shown with the marked box.
(PB) : DECK PB SIGNAL ROUTE
(REC) : DECK REC SIGNAL ROUTE
ALC
DOLBY NR
BIAS OSC
BEAT CUT
IC2101 BA4558F-HT
IC2201 HA12136AF
L:PB (0~0.5V) H:REC (2.5~12V)
L:NR OFF(0~0.5V) H:NR ON (2.5~12V)
XR-VS70SW, XR-VS70 ONLY
XR-VS90SW, XR-VS90 ONLY
XDOLPB/REC
XPBMUTE
DOLON/XOFF
PBL
PBR
RECL
RECR
PBX1/2
ACR
BCR
BIASCONT
XBEATCUT
MS
RECMUTE
PB1/X2
V12S
V12B
GNDA
GNDT
GNDD
F 2/3
F 3/3
F 2/3,3/3
F 1/3
33

3.7 AF ASSY (2/3)


B CN1004
CN1053
HLEM16S-1
GNDD (CD/VCD)
VD+5 (CD/VCD)
VM+5 (CD)
GNDM (CD)
F 3/3
NOTES
ALL CAPACITORS ARE IN µF
UNLESS OTHERWISE SPECIFIED
TL :CFTLA
M :CQMBA
(OTHER:CKCYF)
CH :CCSRCH
SL :CCSRSL
(OTHER:CKSRYB)
JA : CEJA
AL :CEAL
HAQ:CEHAQ
(OTHER :CEAS**M##orCEAT***M##)
ALL RESISTORS ARE IN Ω
1/16W(CHIP)
1/4WPU
ALL INDUCTORS ARE IN µH
LAU
JA3001
VKB1060
IC3001
LC75394NED
CONTROL
SHIFT REGISTER
DECODER
LATCH
50Hz
100Hz
4kHz
SPA MIX
IC5691
BA4558F-HT
Q3081 2SD1858X
D3083 MTZJ11C
MS
MSDETECT
CN5105
HLEM27S-1
CN5106
HLEM5S-1
I CN5501
I CN5502
VA+12 (MIC)
MIC
GNDA (MIC)
VD+5
GNDM
VM+12
ST/TUNE
MS
SPA IN
EXP CE
EXP DATA
EXP CLK
SCLK
TX DATA
SDATA
GNDD
E+5.6
VFDP
FL AC2
FL AC1
E-VOL CE
PLL CE
L MUTE
RDS CLK
RDS DATA
RY ON/OFF
VCD (RDS) ON/OFF
VCS
VCD RESET
VCLK
VDV
VDS


A CN6201
CN3051
KM2001B14
RDS
NC
PLL CE
SDATA
SCLK
TX R
GND (TX)
TX L
TX DATA
L MUTE
TUNE
V+12 (TX)
VD+5
ST/TUNE
F 2/3 AF ASSY
(XR-VS90SW, XR-VS90 : XWZ3313)
(XR-VS70SW, XR-VS70 : XWZ3300)
VD+5 (TX) F 3/3
V+12 (TX)
GNDA (TX)
VA+12
F 3/3
IC3101
XR-VS90SW, XR-VS90 :
BA4558F-HT
XR-VS70SW, XR-VS70 :
AN4558S
IC3102
XR-VS90SW, XR-VS90 :
BA4558F-HT
XR-VS70SW, XR-VS70 :
AN4558S
VOCAL FADER
BASS BLASTER
IC3836
BA3838F-TBB
L
GNDA
R
F 3/3
GNDA F 1/3,3/3
GNDD
VD+5
RYON/OFF
F 3/3
XR-VS90SW, XR-VS90
ONLY
EXP IC
BU4094BCF
IC5892
IC5891
W335
DATAOUT
V+12 (BIAS)
GND (BIAS)
F 3/3
CONT
F 3/3
W273
W301
W334
PB L
PB R
REC L
REC R
S. GND
V+12 (BIAS)
GND (BIAS)
GNDD
VA+12
DOLON/XOFF
XDOLPB/REC
PB1/X2
ACr
BCr
XPBMUTE
BIASCONT
XBEATCUT
MS DETECT
RECMUTE
F 1/3
: AUDIO SIGNAL ROUTE
: TUNER AUDIO SIGNAL ROUTE
: CD AUDIO SIGNAL ROUTE
: DECK PB SIGNAL ROUTE
: DECK REC SIGNAL ROUTE

3.8 AF (3/3) and SECONDARY ASSYS

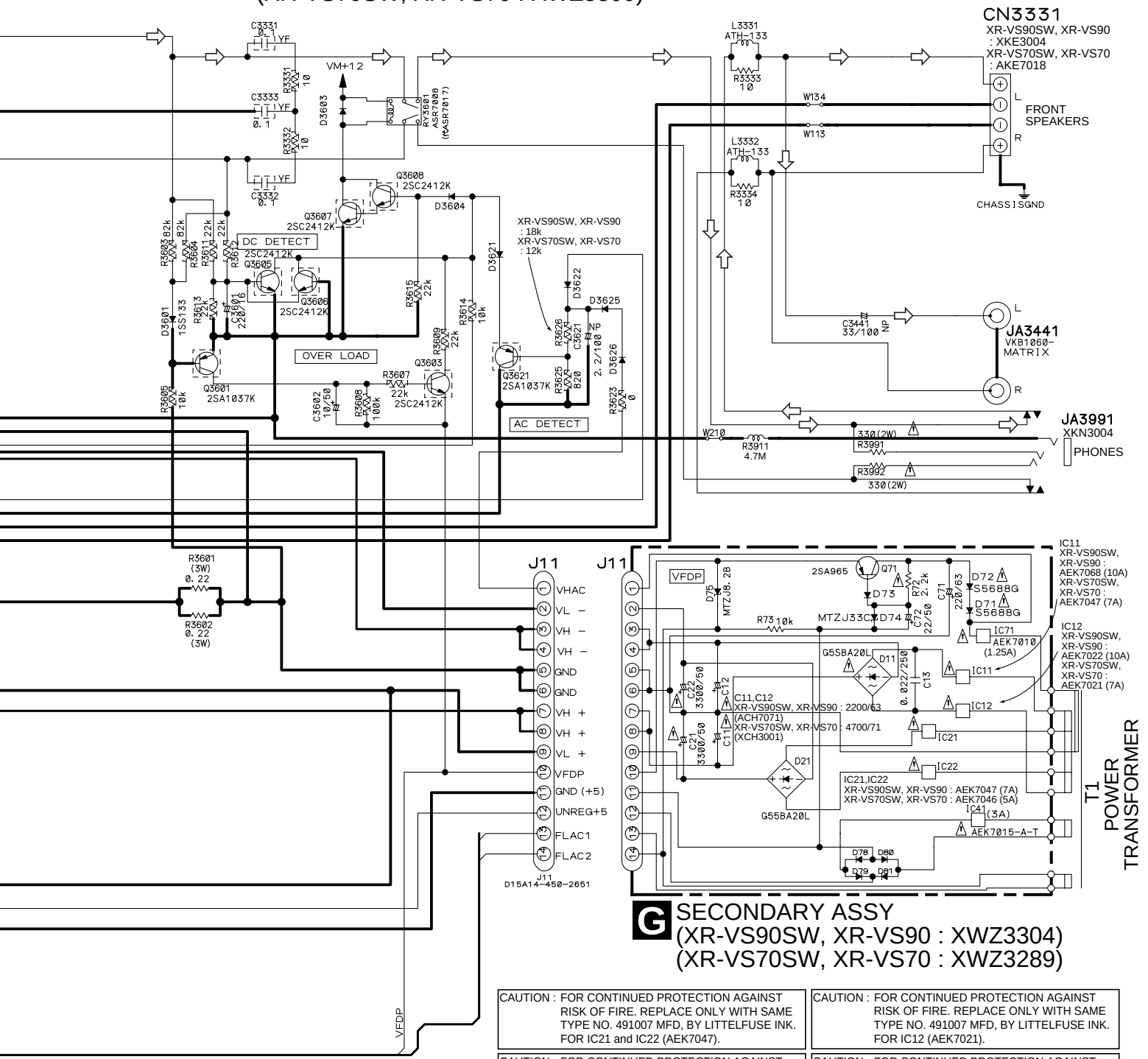


: The power supply is shown with the marked box.

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491003 MFD, BY LITTELFUSE INK. FOR IC41 (AEK7015).	CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491010F MFD, BY LITTELFUSE INK. FOR IC11 (AEK7068).
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 4911.25 MFD, BY LITTELFUSE INK. FOR IC71 (AEK7010).	CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491007 MFD, BY LITTELFUSE INK. FOR IC12 (AEK7022).

⇨: AUDIO SIGNAL ROUTE

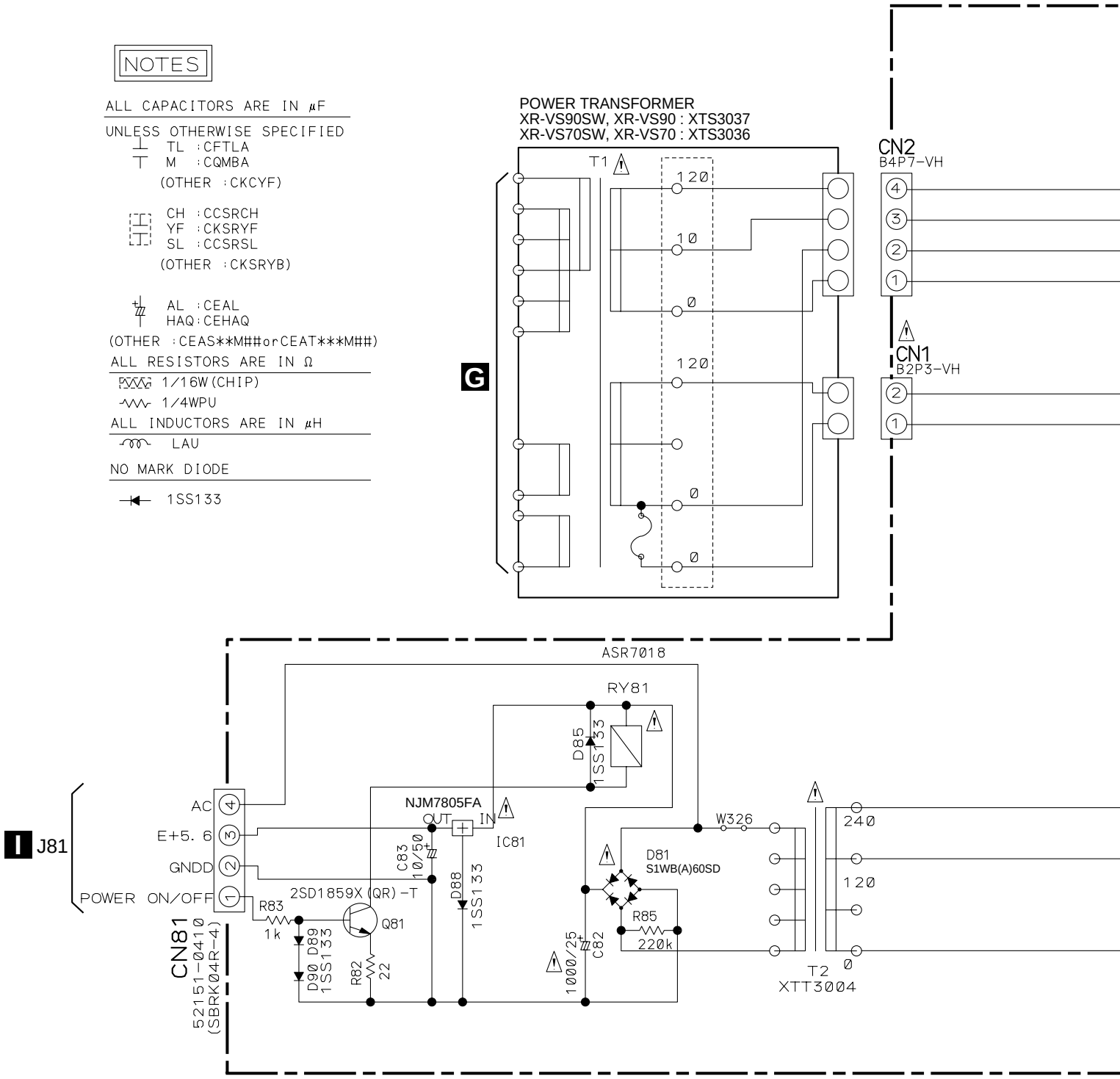
F 3/3 AF ASSY
(XR-VS90SW, XR-VS90 : XWZ3313)
(XR-VS70SW, XR-VS70 : XWZ3300)



G SECONDARY ASSY
(XR-VS90SW, XR-VS90 : XWZ3304)
(XR-VS70SW, XR-VS70 : XWZ3289)

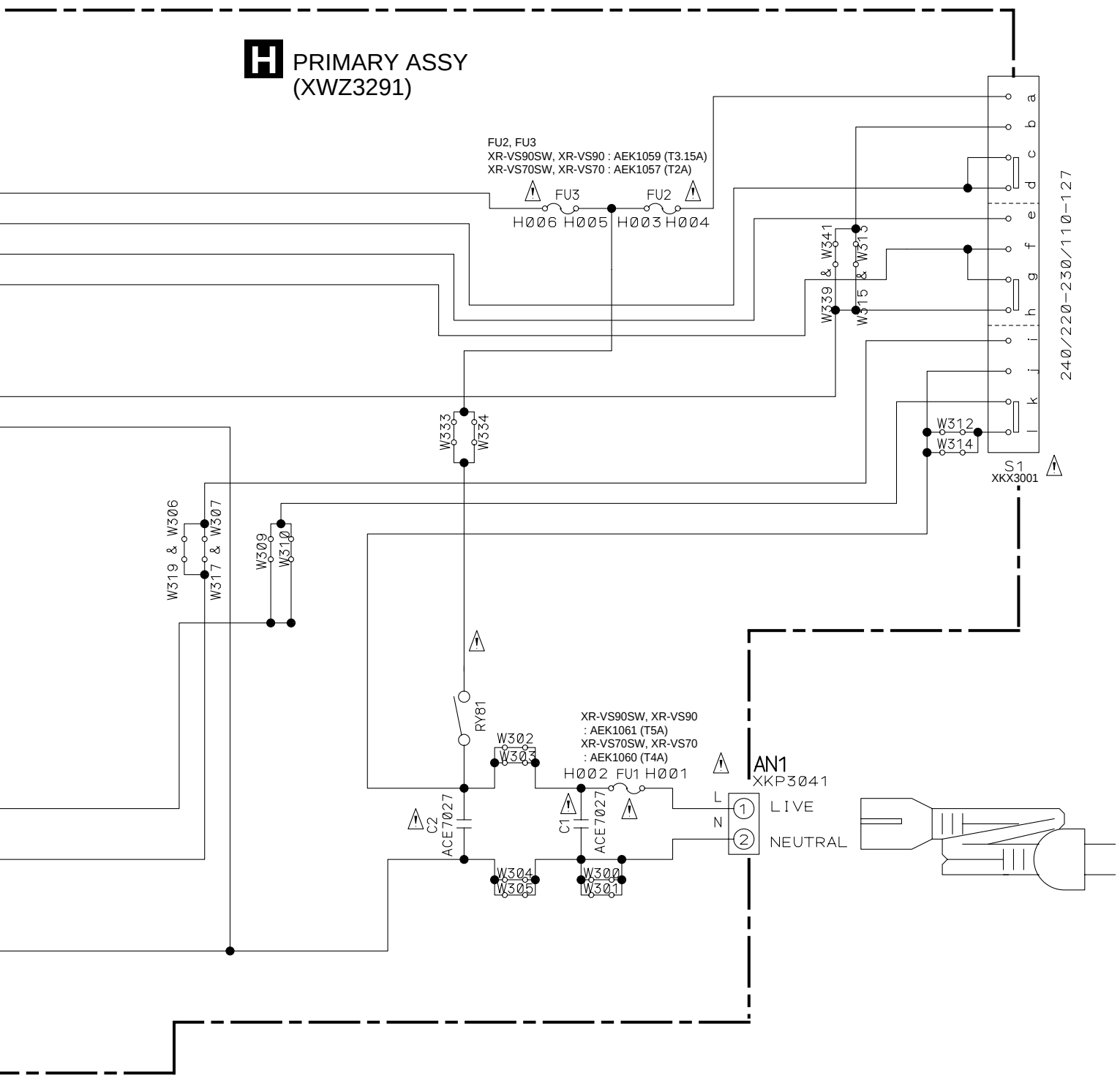
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491007 MFD, BY LITTELFUSE INK. FOR IC21 and IC22 (AEK7047).	CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491007 MFD, BY LITTELFUSE INK. FOR IC12 (AEK7021).
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491007 MFD, BY LITTELFUSE INK. FOR IC11 (AEK7047).	CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491005 MFD, BY LITTELFUSE INK. FOR IC21 and IC22 (AEK7046).

3.9 PRIMARY ASSY



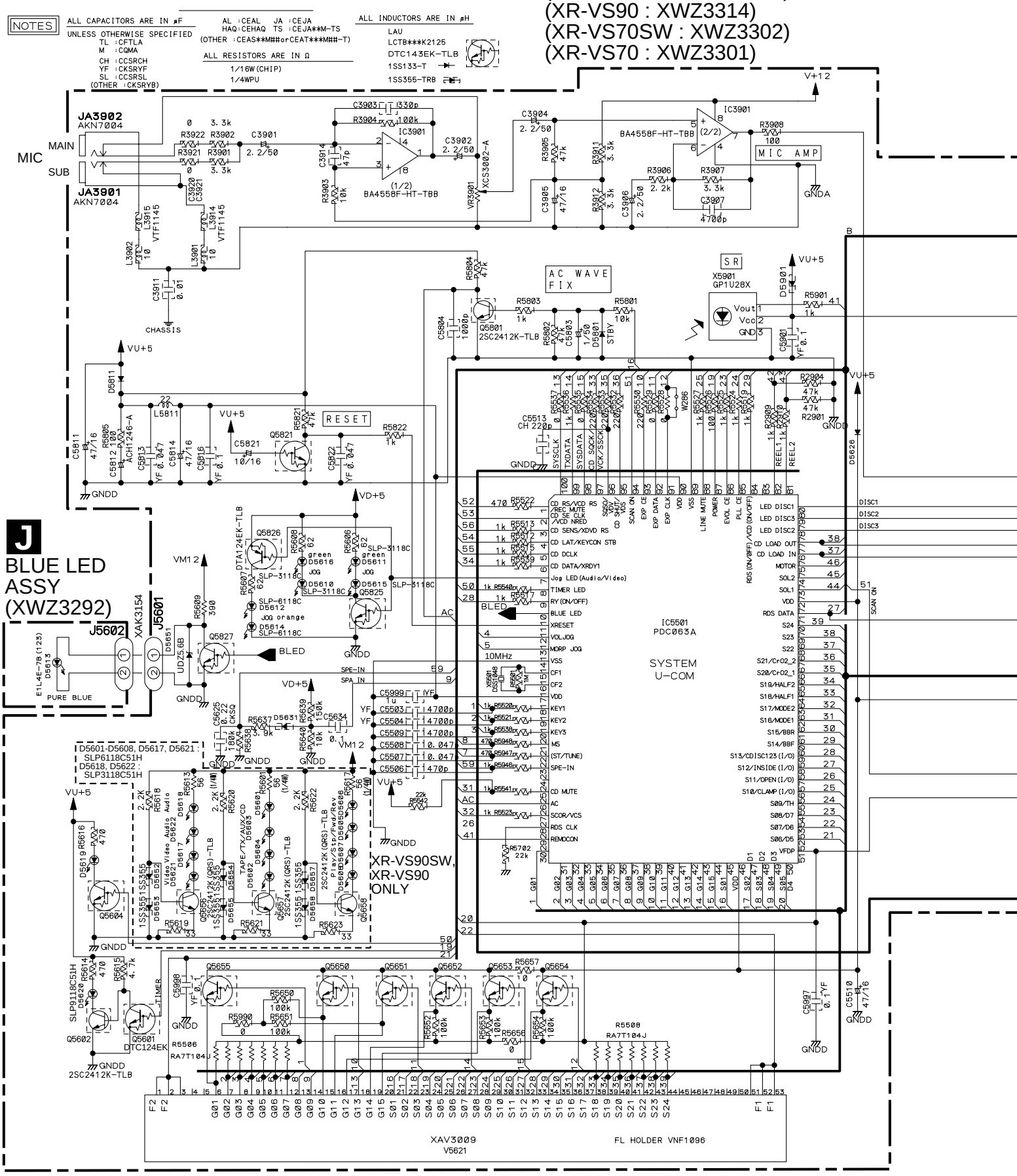
• NOTE FOR FUSE REPLACEMENT

CAUTION - FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE WITH SAME TYPE AND RATINGS ONLY.

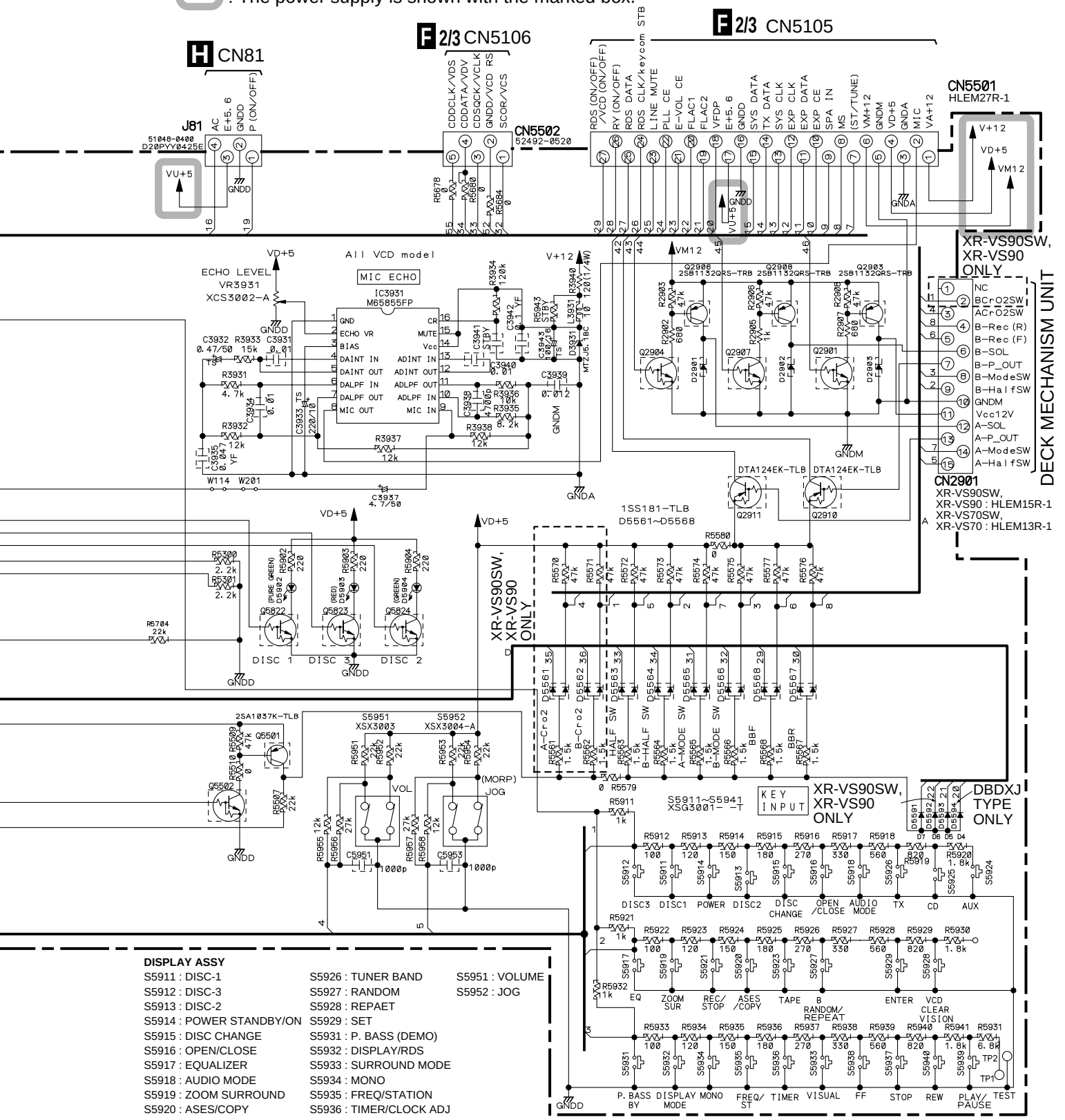


3.10 DISPLAY and BLUE LED ASSYS

I DISPLAY ASSY
(XR-VS90SW : XWZ3315)
(XR-VS90 : XWZ3314)
(XR-VS70SW : XWZ3302)
(XR-VS70 : XWZ3301)



: The power supply is shown with the marked box.



DISPLAY ASSY

S5911 : DISC-1	S5926 : TUNER BAND	S5951 : VOLUME
S5912 : DISC-3	S5927 : RANDOM	S5952 : JOG
S5913 : DISC-2	S5928 : REPAET	
S5914 : POWER STANDBY/ON	S5929 : SET	
S5915 : DISC CHANGE	S5931 : P. BASS (DEMO)	
S5916 : OPEN/CLOSE	S5932 : DISPLAY/RDS	
S5917 : EQUALIZER	S5933 : SURROUND MODE	
S5918 : AUDIO MODE	S5934 : MONO	
S5919 : ZOOM SURROUND	S5935 : FREQ/STATION	
S5920 : ASES/COPY	S5936 : TIMER/CLOCK ADJ	
S5921 : REC/STOP	S5937 : ■ ST. MEMORY	
S5923 : TAPE I / II	S5938 : ▶▶I / ▶▶ • +	
S5924 : AUX	S5939 : ◀ ▶ / ❚❚	
S5925 : CD	S5940 : – • I◀◀ / ◀◀	

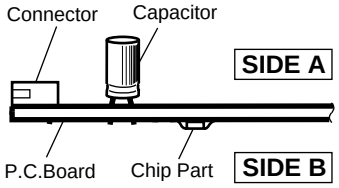
4. PCB CONNECTION DIAGRAM

NOTE FOR PCB DIAGRAMS :

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
B C E	B C E B C E	Transistor
B C E	B C E B C E	Transistor with resistor
D G S	D G S D G S	Field effect transistor
		Resistor array
		3-terminal regulator

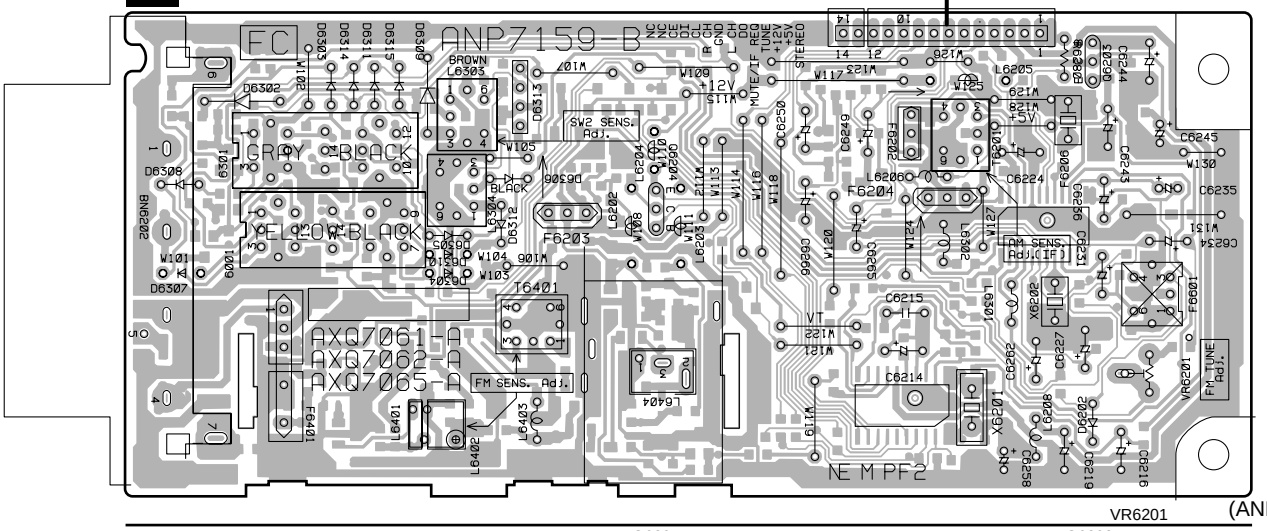
3. The parts mounted on this PCB include all necessary parts for several destinations.
   For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams.



4.1 FM/AM TUNER MODULE

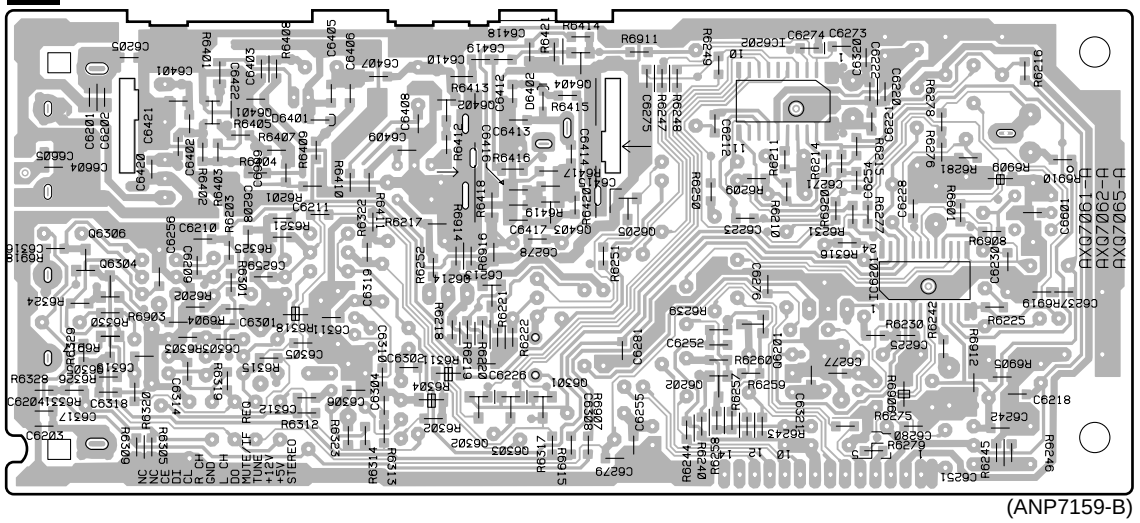
A FM/AM TUNER MODULE

F CN3051



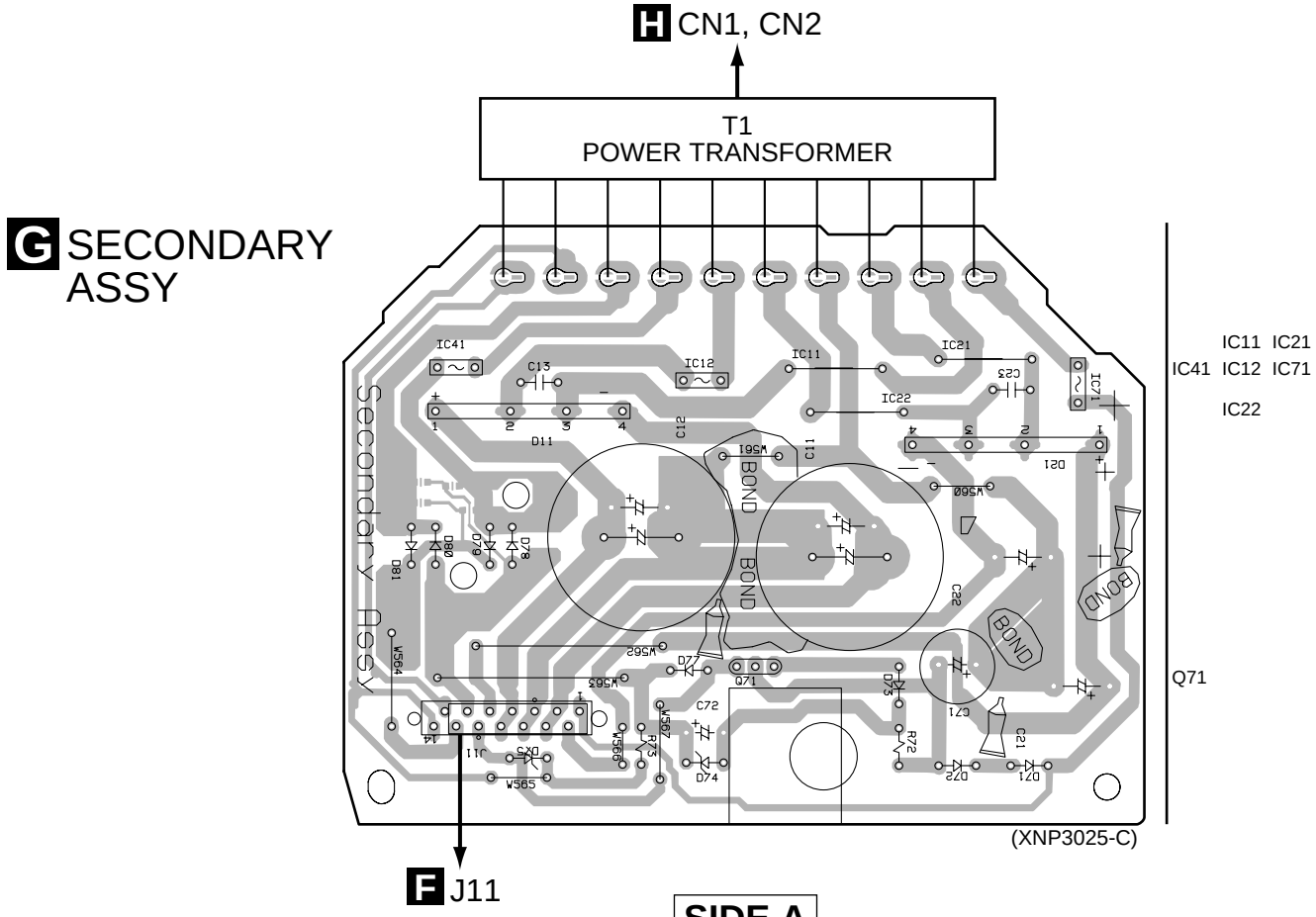
SIDE A

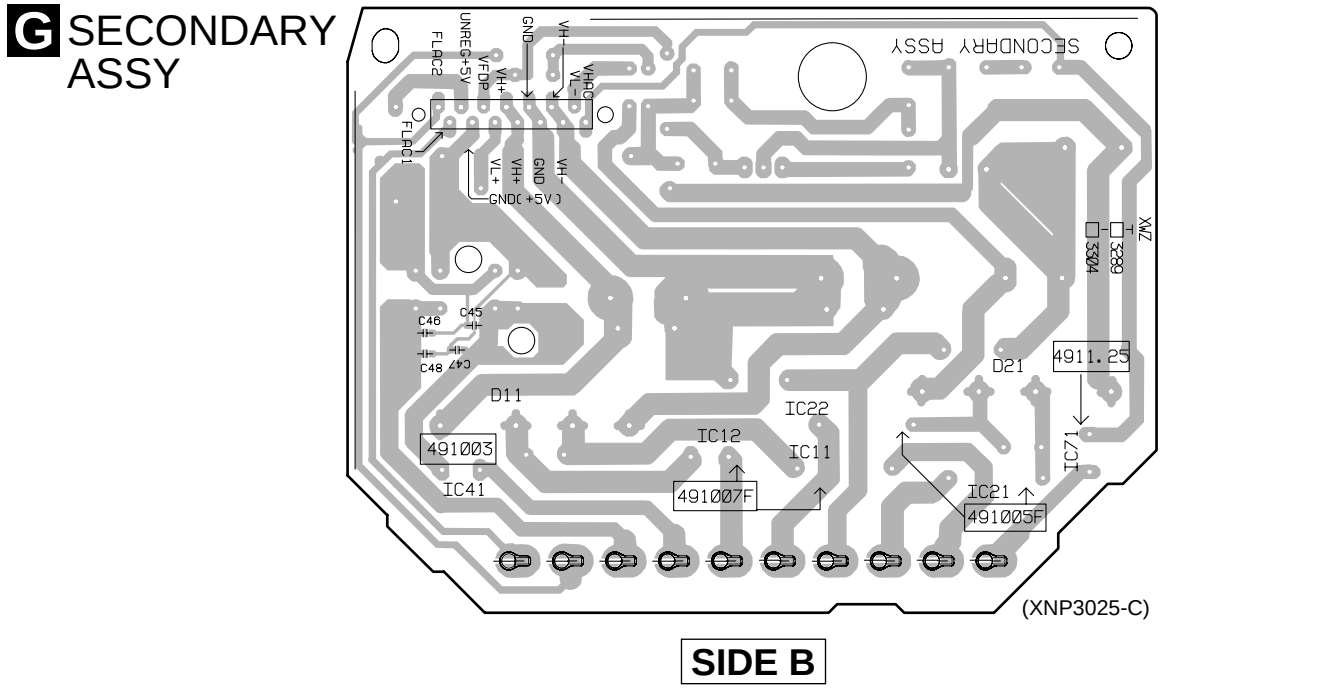
A FM/AM TUNER MODULE



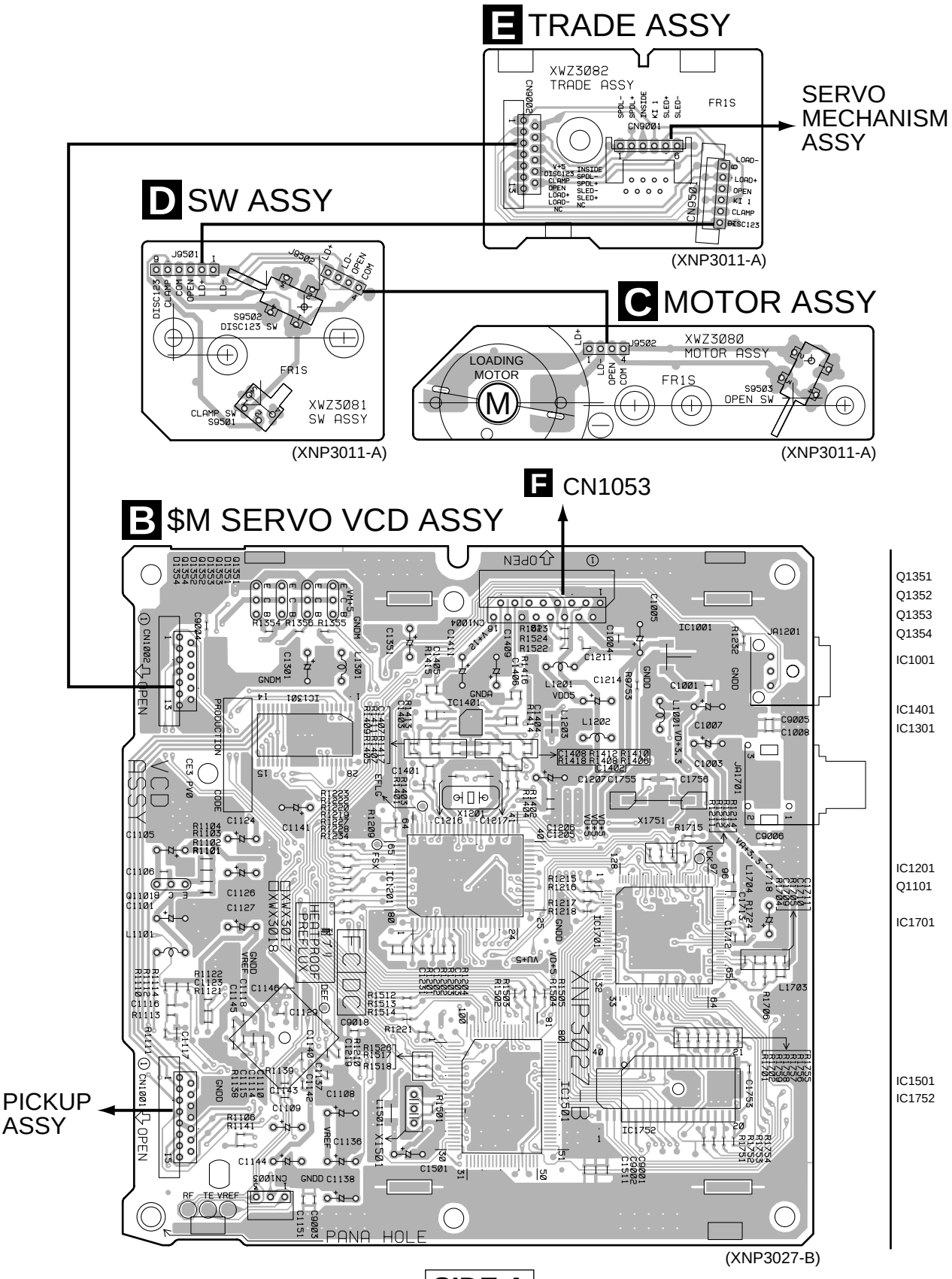
SIDE B

4.2 SECONDARY ASSY

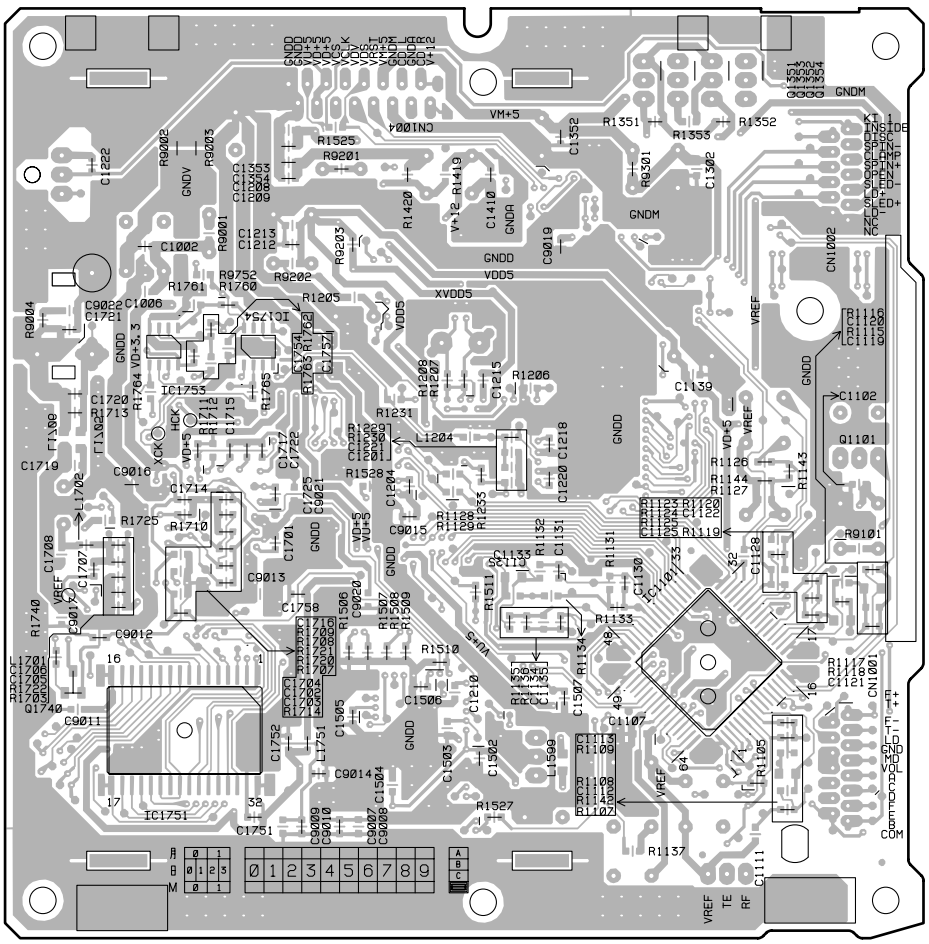




4.3 $M SERVO VCD, MOTOR, SW and TRADE ASSYS



B $M SERVO VCD ASSY

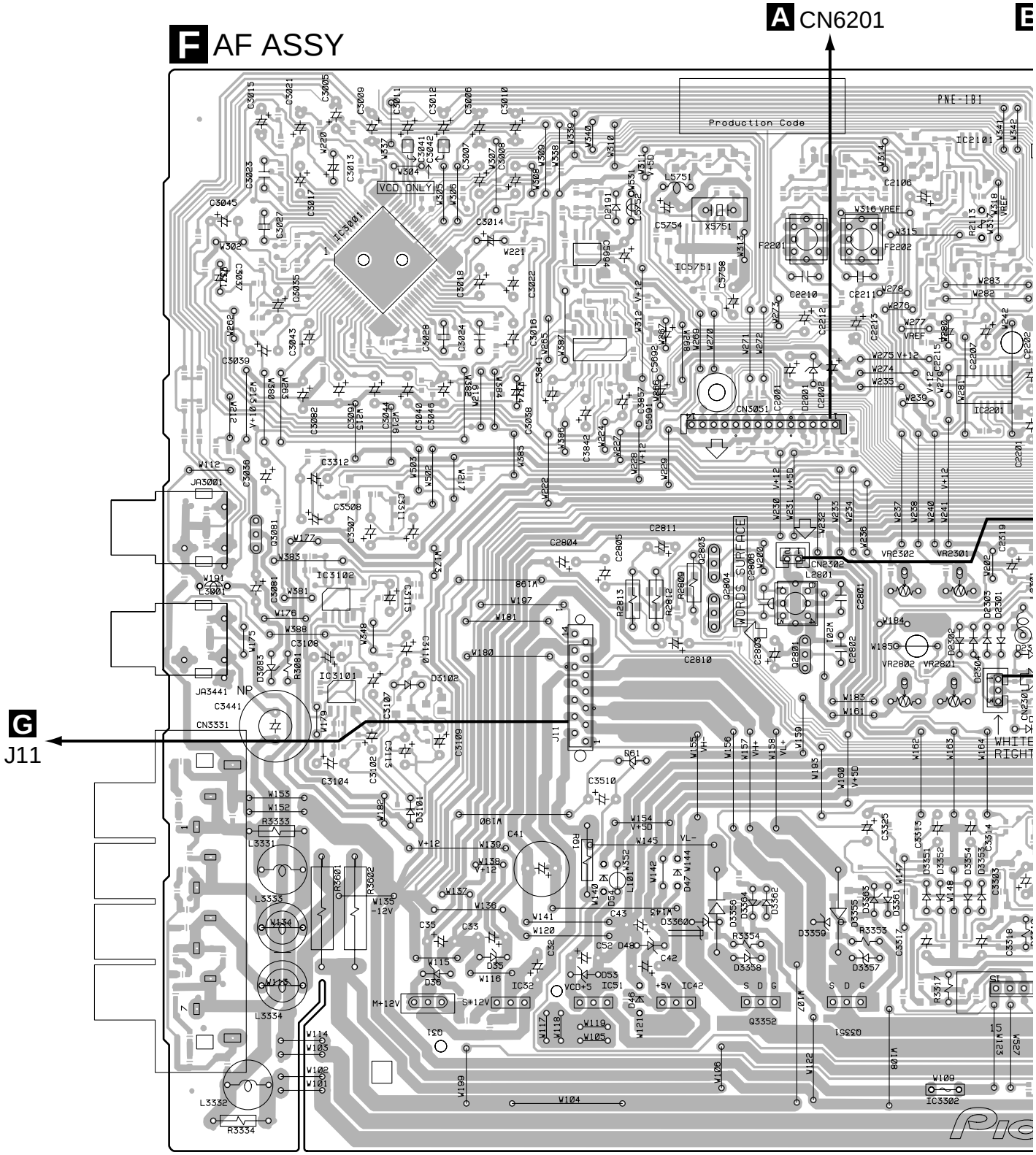


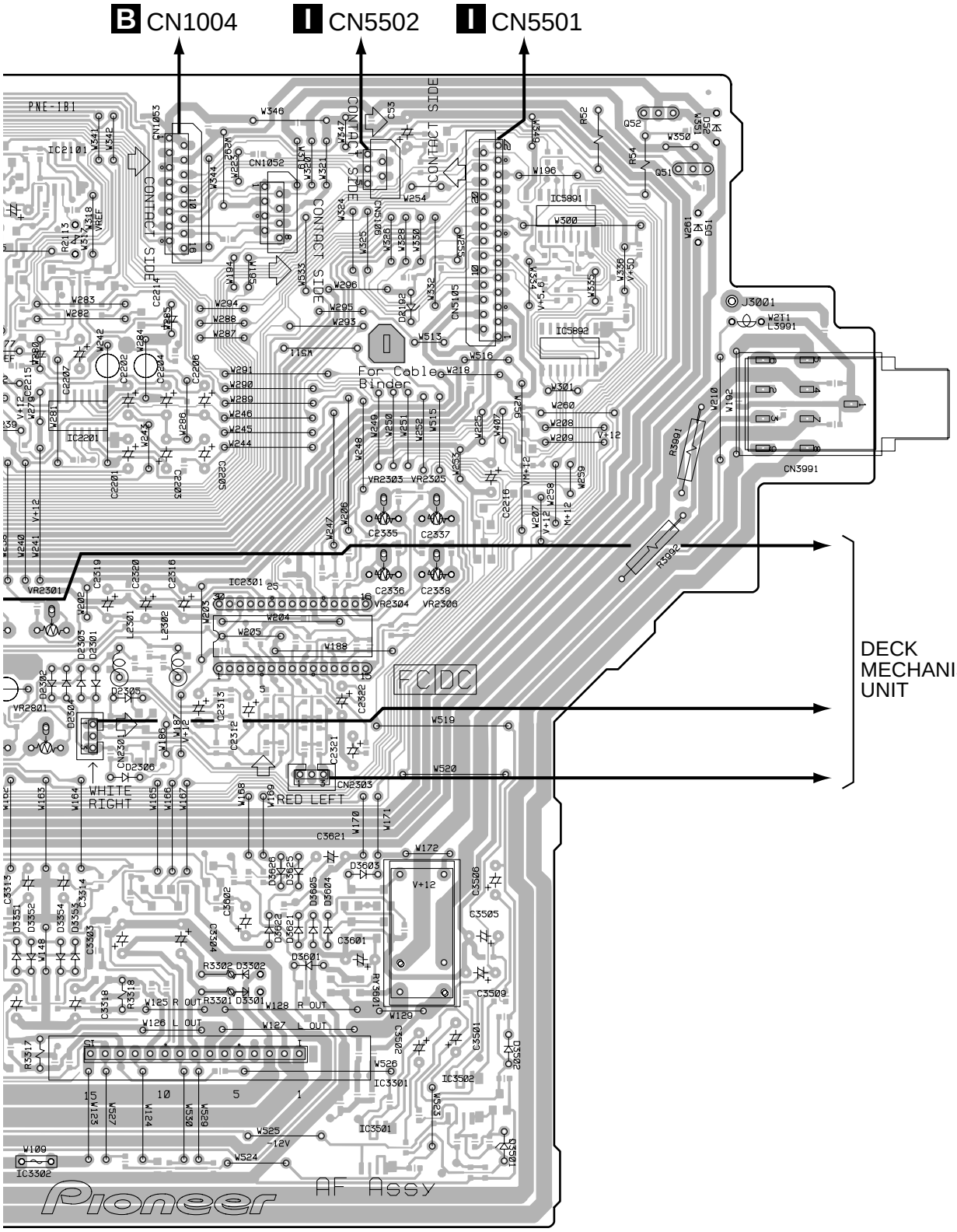
(XNP3027-B)

IC1754
IC1755
IC1101
IC1751

SIDE B

4.4 AF ASSY


F AF ASSY
A CN6201
G
J11
Production Code
PNE-1B1
VCD ONLY
WORDS SURFACE
VR2302 VR2301
VR2802 VR2801
Q3081
Q2803
Q2804
Q2801
Q31
IC32
IC51
IC42
Q3352
Q3351
IC3302



02 VR2301
02 VR2801

VR2303 VR2305
VR2304 VR2306

(XNP3025-C)

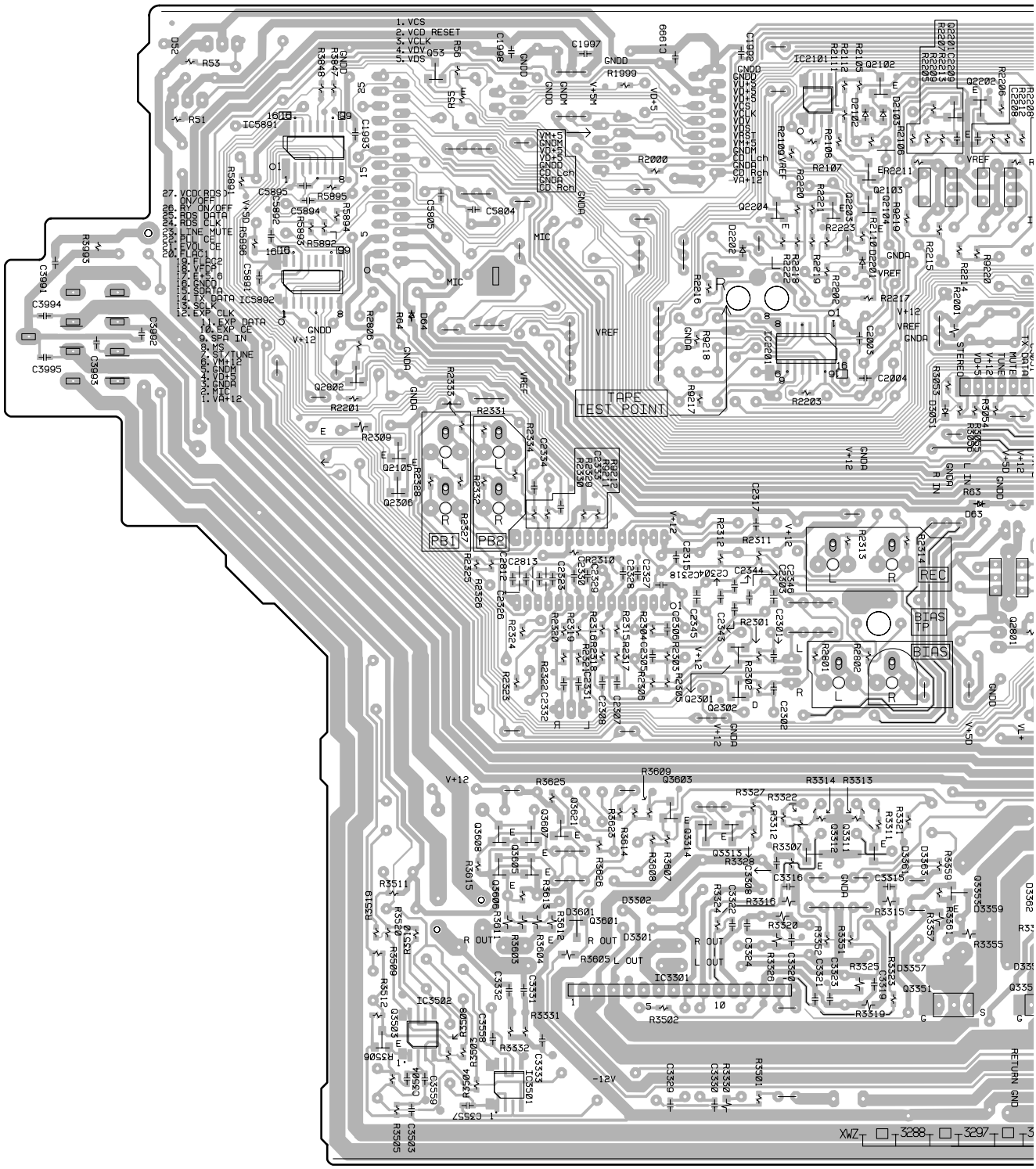
SIDE A

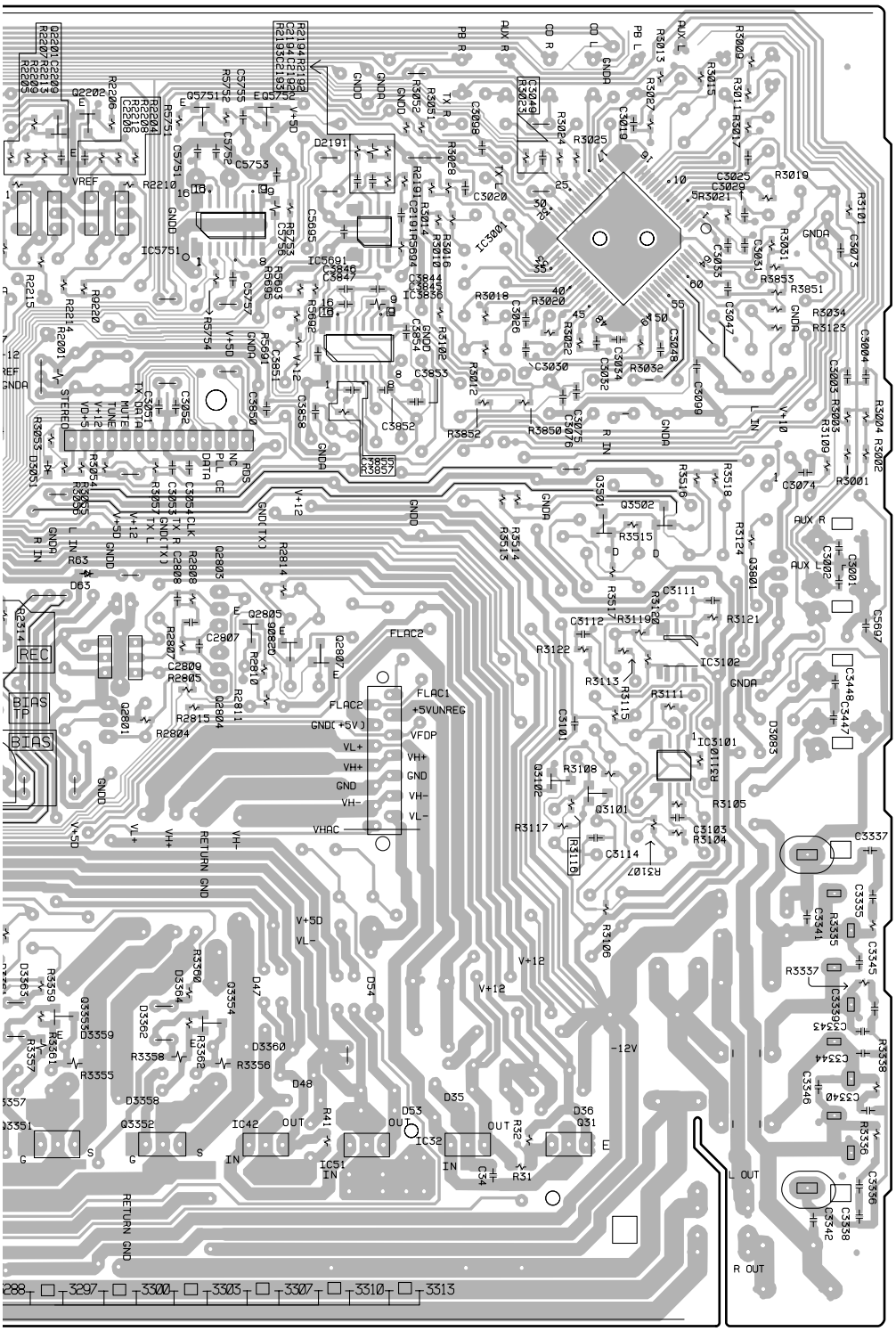
IC2301

Q52 Q51

IC3302 IC3301

F AF ASSY


TAPE
TEST POINT
PB1
PB2
REC
BIAS
BIAS TP
IC5891
IC5892
Q53
IC2101
Q2102-Q2104
Q2202
Q2204
Q2203
Q2802
Q3621
Q3603
IC2201
Q3311
Q3353
Q2105
Q3605-Q3608
Q2301
Q3312
Q3351
Q2306
IC3501
Q3601
IC3301
Q2302
Q3503
IC3502
Q3314
Q3313

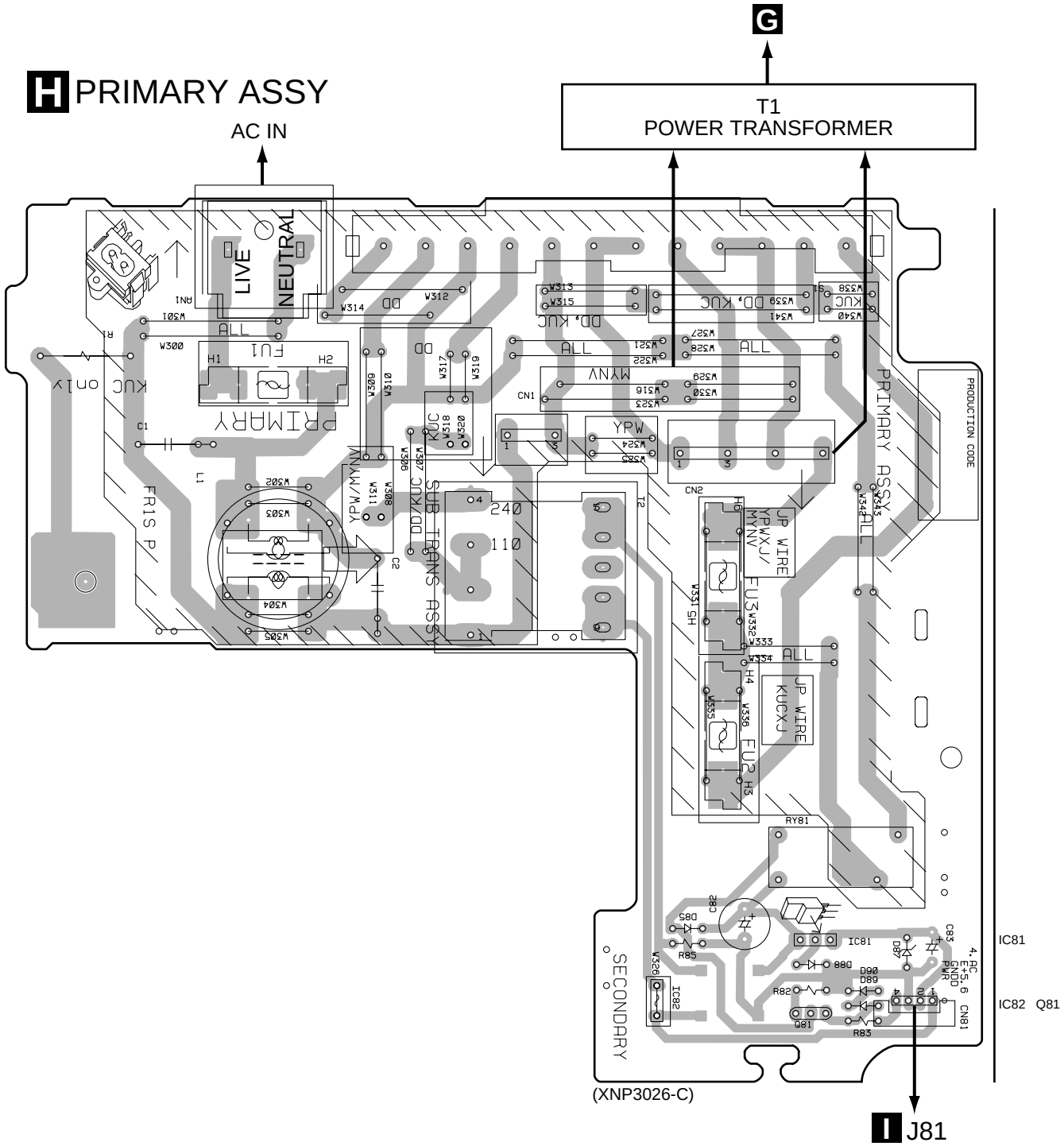


(XNP3025-C)

SIDE B

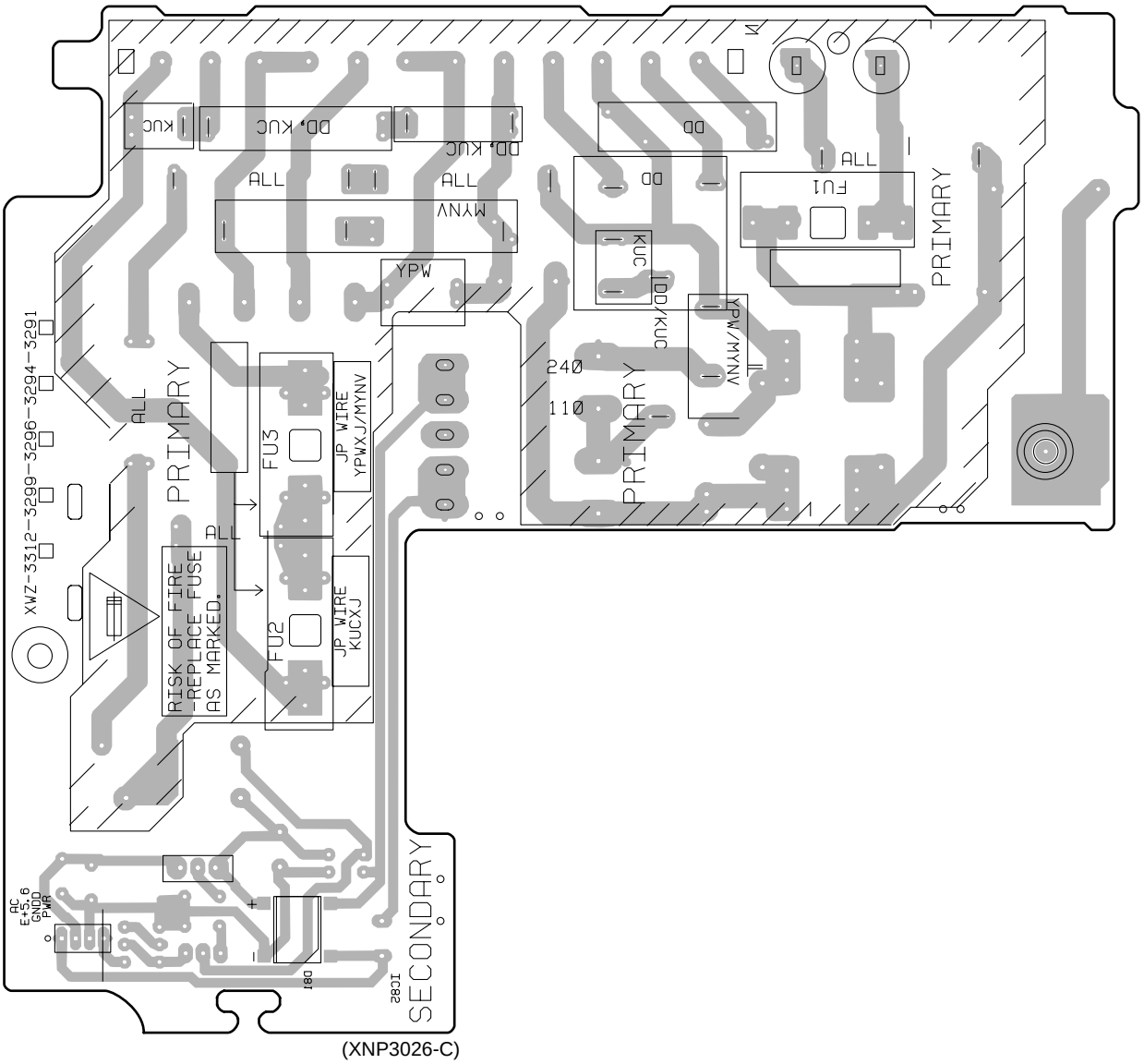
04 Q2202 Q5751 Q5752 IC3001
IC5751 Q3501 Q3502
Q3353 Q3354 Q2804-Q2807 Q3102 Q3101 IC3102
Q3351 Q3352 IC42 IC51 IC32 Q31 IC3101

4.5 PRIMARY ASSY



SIDE A

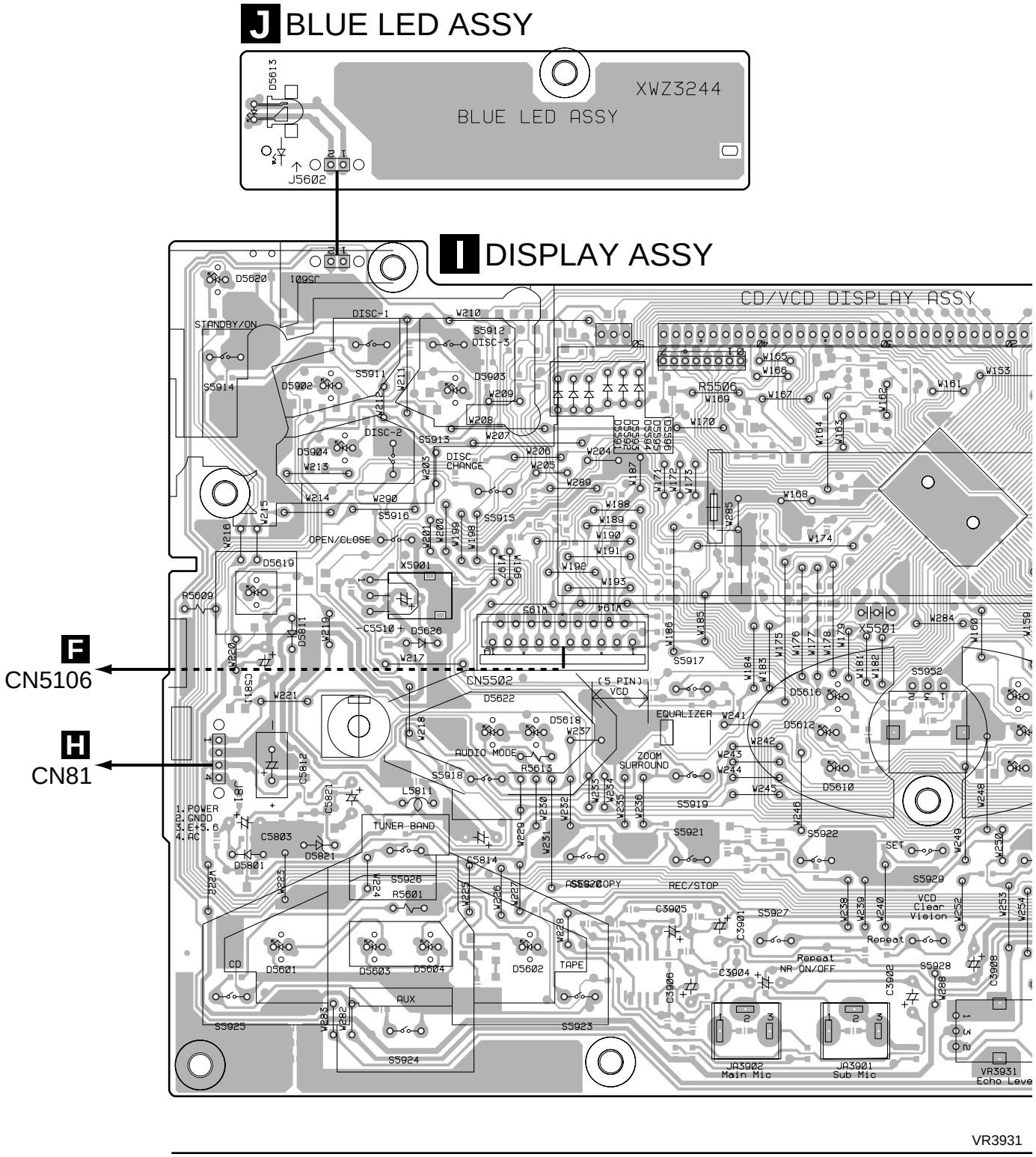
H PRIMARY ASSY



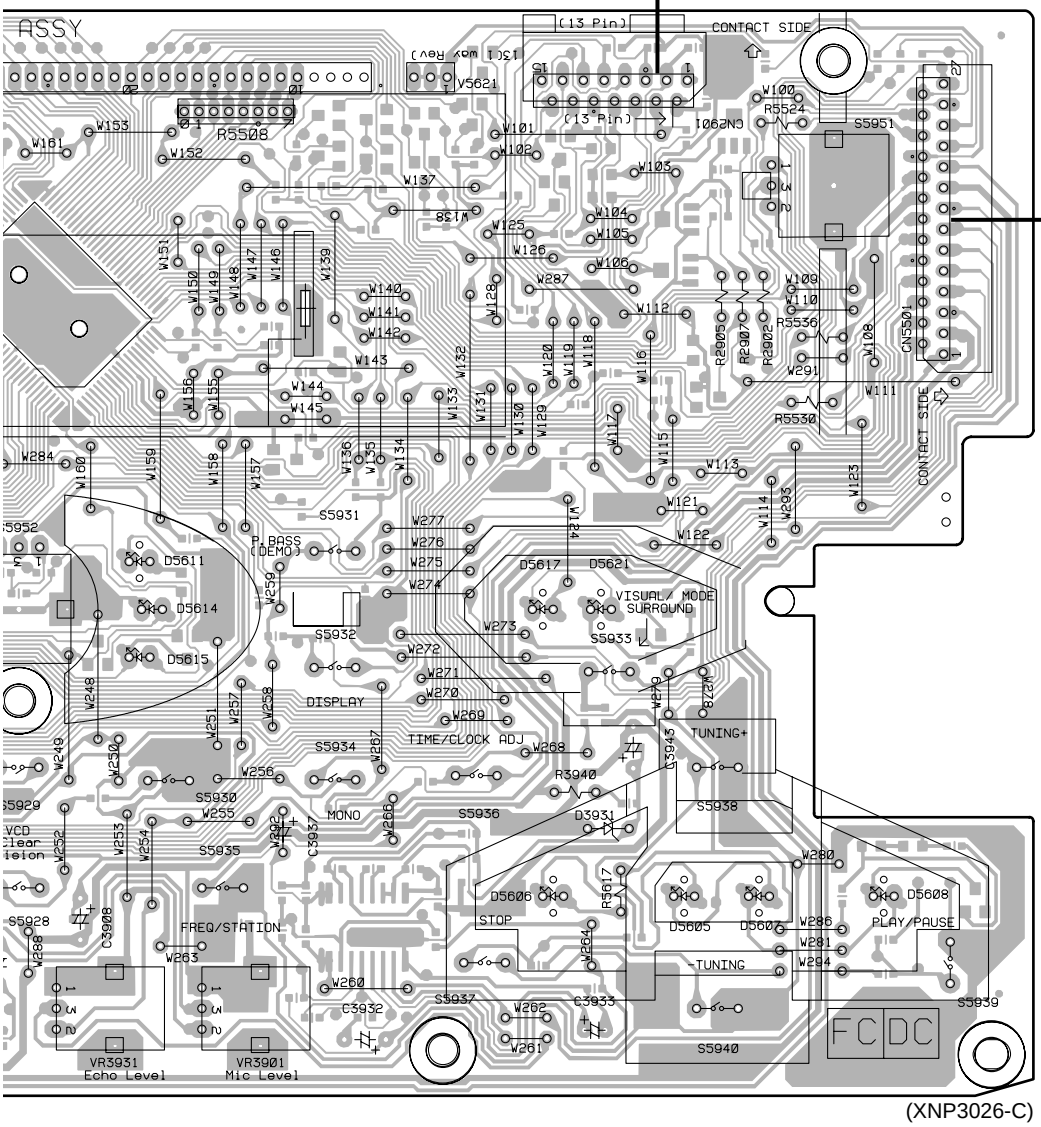
(XNP3026-C)

SIDE B

4.6 DISPLAY and BLUE LED ASSYS



DECK MECHANISM UNIT



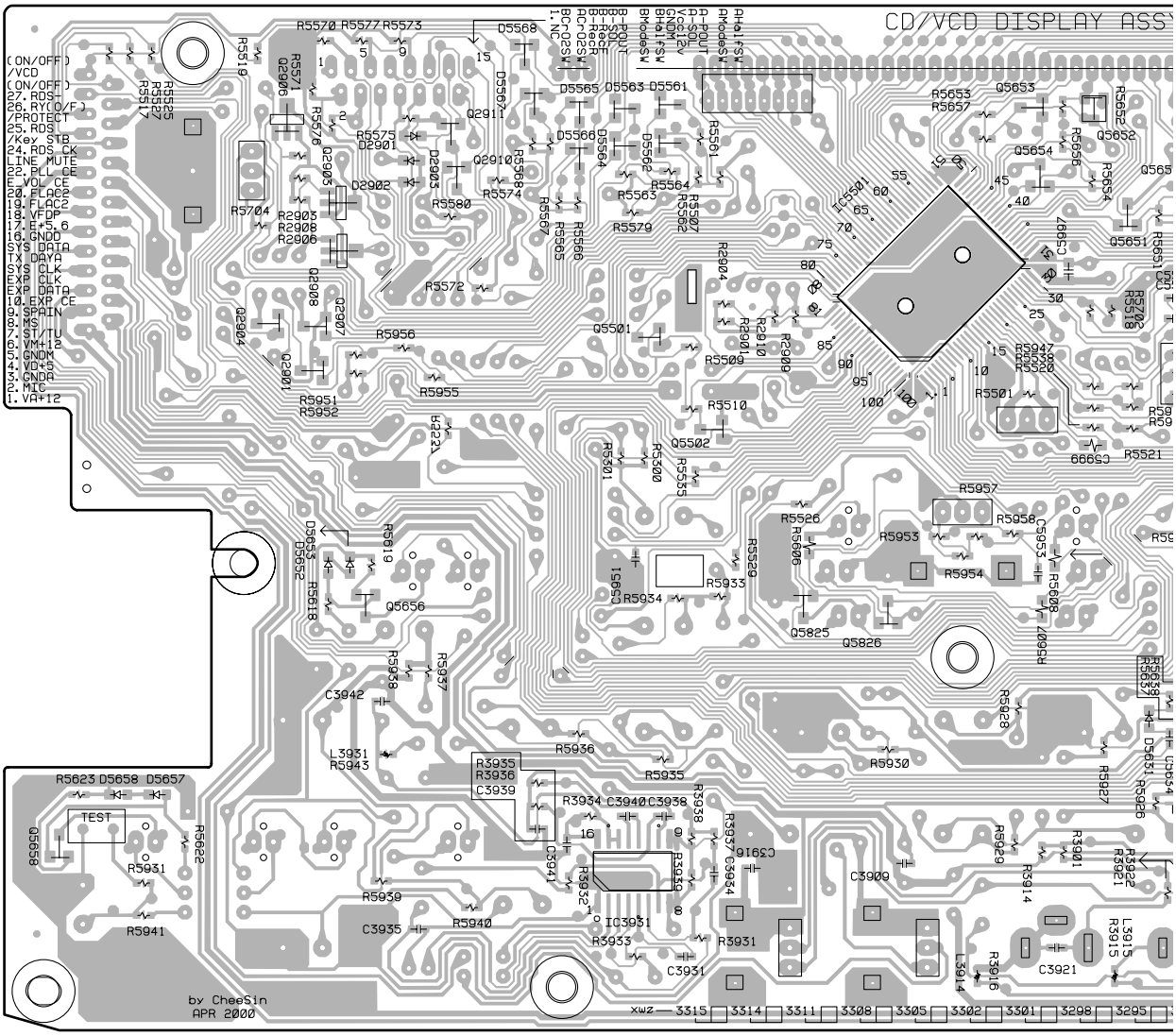
F CN5105

SIDE A

(XNP3026-C)

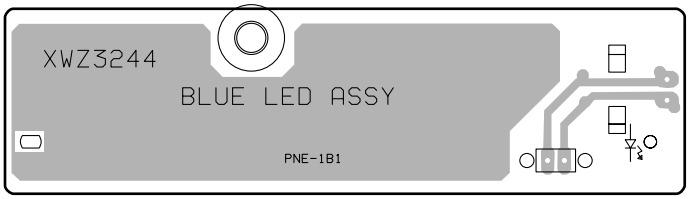
VR3931 VR3901

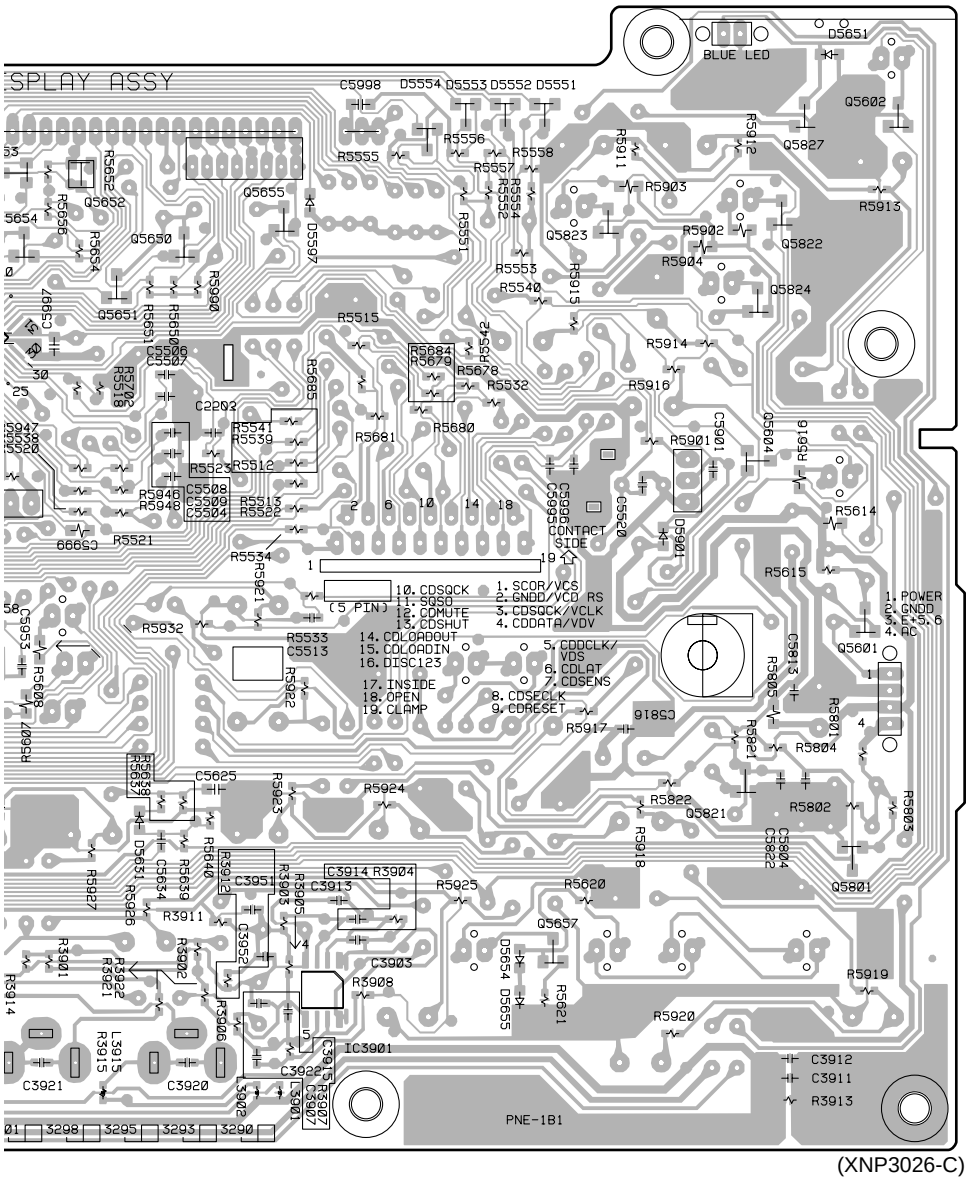
DISPLAY ASSY



Q2906 Q2911 IC5501 Q5650-Q565
Q2904 Q2903 Q2910 Q5501
Q5658 Q2908 IC3931 Q5502 Q5825 Q5826
Q2907
Q5556

J BLUE LED ASSY





(XNP3026-C)

SIDE B

Q5650-Q5655 Q5823 Q5827 Q5602 Q5822

IC3901 Q5657 Q5824 Q5601 Q5604 Q5801 Q5821

5. PCB PARTS LIST

NOTES: ●**Parts marked by "NSP" and ⊗ can not be supplied.**

- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω → 56×10^1 → 561 ..... RD1/4PU 5 6 1 J
47k Ω → 47×10^3 → 473 ..... RD1/4PU 4 7 3 J
0.5 Ω → R50 ..... RN2H R 5 0 K
1 Ω → 1R0 ..... RS1P 1 R 0 K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω → 562×10^1 → 5621 ..... RN1/4PC 5 6 2 1 F

■LIST OF WHOLE PCB ASSEMBLIES

Mark	Symbol and Description	Part No.						Remarks
		XR-VS90SW	XR-VS90		XR-VS70SW	XR-VS70		
		/DBDXJ	/DLXJ/NC	/DXJN/NC	/DBDXJ	/DLXJ/NC	/DXJN/NC	
	FM/AM TUNER MODULE	AXQ7062	AXQ7065	AXQ7065	AXQ7062	AXQ7065	AXQ7065	
NSP	$M MECHANISM VCD	XXA3017	XXA3017	XXA3017	XXA3016	XXA3016	XXA3016	
NSP	├ $M SERVO VCD ASSY	XWX3018	XWX3018	XWX3018	XWX3017	XWX3017	XWX3017	
NSP	└ $M MECHA PCB ASSY	XWX3004	XWX3004	XWX3004	XWX3004	XWX3004	XWX3004	
	├ MOTOR ASSY	XWZ3080	XWZ3080	XWZ3080	XWZ3080	XWZ3080	XWZ3080	
	├ SW ASSY	XWZ3081	XWZ3081	XWZ3081	XWZ3081	XWZ3081	XWZ3081	
	└ TRADE ASSY	XWZ3082	XWZ3082	XWZ3082	XWZ3082	XWZ3082	XWZ3082	
	MAIN ASSY	XWM3164	XWM3164	XWM3164	XWM3153	XWM3153	XWM3153	
⊗	├ AF ASSY	XWZ3313	XWZ3313	XWZ3313	XWZ3300	XWZ3300	XWZ3300	
	└ SECONDARY ASSY	XWZ3304	XWZ3304	XWZ3304	XWZ3289	XWZ3289	XWZ3289	
	COMPLEX ASSY	XWM3170	XWM3169	XWM3169	XWM3160	XWM3159	XWM3159	
	├ PRIMARY ASSY	XWZ3291	XWZ3291	XWZ3291	XWZ3291	XWZ3291	XWZ3291	
⊗	├ DISPLAY ASSY	XWZ3315	XWZ3314	XWZ3314	XWZ3302	XWZ3301	XWZ3301	
⊗	└ BLUE LED ASSY	XWZ3292	XWZ3292	XWZ3292	XWZ3292	XWZ3292	XWZ3292	

A $M SERVO VCD ASSY

XWX3018 and XWX3017 are constructed the same except for the following :

Mark	Symbol and Description	Part No.		Remarks
		XWX3018	XWX3017	
	C1222	CKSRYB104K16	Not used	
	R1209	RS1/16S102J	Not used	
	R1232	RS1/16S152J	Not used	
	JA1201 OPTICAL LINK OUT	GP1F32T	Not used	

G SECONDARY ASSY

XWZ3304 and XWZ3289 are constructed the same except for the following :

Mark	Symbol and Description	Part No.		Remarks
		XWZ3304	XWZ3289	
⚠	IC11	AEK7068 (10A)	AEK7047 (7A)	
⚠	IC12	AEK7022 (10A)	AEK7021 (7A)	
⚠	IC21, IC22	AEK7047 (7A)	AEK7046 (5A)	
⚠	C11, C12	XCH3001 (4700µF/71V)	ACH7071 (2200µF/63V)	

I DISPLAY ASSY

XWZ3315, XWZ3314, XWZ3302 and XWZ3301 are constructed the same except for the following :

Mark	Symbol and Description	Part No.				Remarks
		XWZ3315	XWZ3314	XWZ3302	XWZ3301	
	Q5656-Q5658	2SC2412K	2SC2412K	Not used	Not used	
	D5561, D5562	1SS181	1SS181	Not used	Not used	
	D5593	1SS133	1SS133	Not used	Not used	
	D5594	1SS133	Not used	1SS133	Not used	
	D5601-D5608, D5617, D5621	SLP6118C51H	SLP6118C51H	Not used	Not used	
	D5618, D5622	SLP3118C51H	SLP3118C51H	Not used	Not used	
	D5652-D5655, D5657, D5658	1SS355	1SS355	Not used	Not used	
	R5561, R5562	RS1/16S152J	RS1/16S152J	Not used	Not used	
	R5570, R5571	RS1/16S473J	RS1/16S473J	Not used	Not used	
	R5601, R5613, R5617	RD1/4PU560J	RD1/4PU560J	Not used	Not used	
	R5618, R5620, R5622	RS1/16S222J	RS1/16S222J	Not used	Not used	
	R5619, R5621, R5623	RS1/16S330J	RS1/16S330J	Not used	Not used	
	CN2901 FFC CONNECTOR 15P (13P)	HLEM15R-1	HLEM15R-1	HLEM13R-1	HLEM13R-1	

PCB PARTS LIST FOR XR-VS90SW/DBDXJ UNLESS OTHERWISE NOTED

Mark	No.	Description	Part No.

AA FM/AM TUNER MODULE (AXQ7062)

SEMICONDUCTORS

	IC6201	LA1832ML
	IC6202	LC72131MD
	Q6402	2SC2223
	Q6203	2SC2705
	Q6201,Q6202	2SC2712
	Q6214,Q6403	2SC2714
	Q6304,Q6306	2SD2114K
	Q6404	2SK302
	Q6401	3SK194
	Q6301-Q6303	DTA124EK
	Q6204	DTA124ES
	Q6205	DTC124EK
	D6202,D6303-D6308,D6310-D6312	1SS254
	D6314,D6315	1SS254
	D6302,D6309	1SS85
	D6401,D6402	1T363
	D6313	KV1561A-2

COILS AND FILTERS

	L6303	SW2 ANTENNA TRANS.	ATA7001
	L6304	SW2 OSC COIL	ATA7002
	L6404	FM COIL	ATC1003
	L6401	FM RF COIL	ATC1020
	L6402	FM RF COIL	ATC1021
	F6204	FM CERAMIC FILTER	ATF-107
	F6203	FM CERAMIC FILTER	ATF-119
	F6401	FM BAND PASS FILTER	ATF-155
	F6206	FM CERAMIC DISCLI.	ATF7008
	F6202	AM CERAMIC FILTER	ATF7017
	L6206,L6208,L6403		LAU2R2J
	L6301,L6302		LTA393J

TRANSFORMERS

	T6201	ATB7008
	T6401	ATE7002

CAPACITORS

	C6208	CCSQCH100D50
	C6212,C6274,C6275,C6408	CCSQCH101J50
	C6412	CCSQCH102J50
	C6221,C6222,C6416	CCSQCH150J50
	C6271	CCSQCH200J50
	C6415	CCSQCH330J50
	C6401,C6419	CCSQCH5R0C50
	C6304	CCSQCH7R0D50
	C6407	CCSQCK1R0C50
	C6320,C6410	CCSQCK2R0C50
	C6413	CCSQPH220J50
	C6414	CCSQPH8R0D50
	C6405	CCSQTH180J50
	C6234,C6235	CEAL1R0M50
	C6245	CEAL470M16
	C6224	CEAS100M50
	C6243	CEAS101M16
	C6231	CEAS1R0M50
	C6227	CEAS220M16
	C6236	CEAS2R2M50
	C6216	CEAS330M16
	C6262	CEAS3R3M50
	C6219	CEAS470M10
	C6244	CEAS470M16
	C6249,C6250,C6265,C6266	CEAS4R7M50
	C6258	CEJA470M16
	C6215	CFTLA103J50
	C6214	CFTLA224J50
	C6211,C6254,C6403,C6406	CKSQYB102K50
	C6201,C6205,C6210,C6213,C6237	CKSQYB103K50
	C6276,C6278,C6280,C6281,C6302	CKSQYB103K50
	C6308,C6312,C6314,C6318,C6319	CKSQYB103K50
	C6402,C6409,C6417,C6418	CKSQYB103K50
	C6251,C6252	CKSQYB153K50
	C6303	CKSQYB222K50

Mark	No.	Description	Part No.
	C6203,C6259,C6301,C6305,C6306		CKSQYB223K50
	C6311,C6315		CKSQYB223K50
	C6228		CKSQYB472K50
	C6209		CKSQYB473K50
	C6310		CKSQYB562K50
	C6230		CKSQYB821K50
	C6218,C6223,C6255		CKSQYF103Z50
	C6316		CKSQYF105Z16
	C6220,C6226,C6242,C6256		CKSQYF223Z50
	C6225		CKSQYF473Z50

RESISTORS

R6280		RD1/4PU101J
R6311,R6318,R6413,R6416,R6418		RS1/8S0R0J
R6906,R6909		RS1/8S0R0J
R6304		RS1/8S103J
R6401		RS1/8S470J
VR6201 (22kΩ)		RCP1046
Other Resistors		RS1/10S□□□J

OTHERS

BN6202	4P ANTENNA TERMINAL	AKE7051
X6202	CERAMIC RESONATOR (456kHz)	ASS1066
X6201	CRYSTAL RESONATOR (7.2000MHz)	ASS1093
CN6201	14P SOCKET	KP200IA14L
	AM RF TUNING BLOCK	AXX7039
	AM RF TUNING BLOCK	AXX7040

AB FM/AM TUNER MODULE (AXQ7065)

SEMICONDUCTORS

IC6201		LA1832ML
IC6202		LC72131MD
Q6402		2SC2223
Q6203		2SC2705
Q6201,Q6202		2SC2712
Q6214,Q6403		2SC2714
Q6404		2SK302
Q6401		3SK194
Q6204		DTA124ES
Q6205		DTC124EK
D6202		1SS254
D6401,D6402		1T378A

COILS AND FILTERS

L6404	FM COIL	ATC1003
L6401	FM RF COIL	ATC1020
L6402	FM RF COIL	ATC1021
F6204	FM CERAMIC FILTER	ATF-107
F6203	FM CERAMIC FILTER	ATF-119
F6401	FM BAND PASS FILTER	ATF-155
F6206	FM CERAMIC DISCLI.	ATF7008
F6202	AM CERAMIC FILTER	ATF7011
L6206,L6208,L6403		LAU2R2J

TRANSFORMERS

T6201		ATB7008
T6401		ATE7002

Mark	No.	Description	Part No.

CAPACITORS

C6208		CCSQCH100D50
C6212,C6274,C6275,C6408		CCSQCH101J50
C6412		CCSQCH102J50
C6221,C6222,C6416		CCSQCH150J50
C6271		CCSQCH200J50
C6415		CCSQCH330J50
C6406		CCSQCH331J50
C6401,C6419		CCSQCH5R0C50
C6407		CCSQCK1R0C50
C6410		CCSQCK2R0C50
C6413		CCSQRH180J50
C6414		CCSQRH8R0D50
C6405		CCSQTH150J50
C6234,C6235		CEAL1R0M50
C6245		CEAL470M16
C6224		CEAT100M50
C6243		CEAT101M16
C6231		CEAT1R0M50
C6227		CEAT220M25
C6214,C6236		CEAT2R2M50
C6262		CEAT3R3M50
C6219		CEAT470M10
C6244		CEAT470M16
C6249,C6250,C6265,C6266		CEAT4R7M50
C6258		CEJA470M16
C6215		CFTLA103J50
C6211,C6254,C6403,C6417		CKSQYB102K50
C6201,C6205,C6210,C6237,C6276		CKSQYB103K50
C6278,C6280,C6281,C6402,C6409		CKSQYB103K50
C6418		CKSQYB103K50
C6251,C6252		CKSQYB153K50
C6203,C6259		CKSQYB223K50
C6228		CKSQYB472K50
C6209		CKSQYB473K50
C6230		CKSQYB821K50
C6218,C6223,C6255		CKSQYF103Z50
C6220,C6226,C6242,C6256		CKSQYF223Z50
C6225		CKSQYF473Z50

RESISTORS

R6280		RD1/4PU101J
R6413,R6416,R6418,R6906,R6909		RS1/8S0R0J
R6401		RS1/8S470J
VR6201 (10kΩ)		PCP1029
Other Resistors		RS1/10S□□□J

OTHERS

BN6202	4P ANTENNA TERMINAL	AKE7051
X6202	CERAMIC RESONATOR (456kHz)	ASS1066
X6201	CRYSTAL RESONATOR (7.2000MHz)	ASS1093
CN6201	14P SOCKET	KP200IA14L
	MW RF TUNING BLOCK	AXX7041

B $M SERVO VCD ASSY

SEMICONDUCTORS

⚠	IC1001	BA033FP
	IC1401	BA4558F-HT
	IC1301	BA5923FP
	IC1701	CL680T-D1
	IC1101	LA9240ML

Mark	No.	Description	Part No.
	IC1201		LC78632RE
	IC1752		MB814260-70PJ
	IC1501		PDC067A
	IC1751		PEB001A
	IC1754		TC7W14F
	IC1753		TC7WU04F
	Q1101		2SA1048
	Q1351,Q1352		2SB1237X
	Q1740		2SC2412K
	Q1353,Q1354		2SD1858X
	D1351-D1354		1SS355

COILS AND FILTERS

	F1201	CHIP BEAD	DTF1066
	F1202	CHIP BEAD	DTF1067
	L1702		LCTB1R8K2125
	L1701		LCTB2R7K2125
	L1201		LFA100J
	L1001		LFA220J
	L1599	CHIP BEAD	VTL1073
	L1705,L1706	CHIP BEAD	VTL1081

CAPACITORS

	C1132		CCSQCH300J50
	C1129,C1205,C1208,C1213,C1353		CCSRCH101J50
	C1706,C1722		CCSRCH101J50
	C1133,C1755,C1756		CCSRCH120J50
	C1720		CCSRCH121J50
	C1216		CCSRCH150J50
	C1708		CCSRCH151J50
	C1217		CCSRCH180J50
	C1705		CCSRCH271J50
	C1715,C1717		CCSRCH470J50
	C1130		CCSRCJ3R0C50
	C1138		CEAT100M50
	C1003,C1108,C1144,C1207,C1214		CEAT101M10
	C1301,C1351,C1501		CEAT101M10
	C1127		CEAT1R0M50
	C1005,C1007,C1126,C1141,C1409		CEAT470M16
	C1411		CEAT470M16
	C1718		CEAT471M6R3
	C1136		CEAT4R7M50
	C1109		CEATR22M50
	C1124		CEATR47M50
	C1101		CEJA3R3M50
	C1105		CEJA470M10
	C1114,C1117,C1120,C1121		CKSQYB154K16
	C1112,C1143		CKSQYB334K16
	C1106,C1119,C1134		CKSRYB102K50
	C1102,C1122,C1123,C1139,C1140		CKSRYB103K50
	C1209,C1215,C1218,C1231,C1302		CKSRYB103K50
	C1354,C1502-C1506,C1703,C9002		CKSRYB103K50
	C9005,C9013,C9015		CKSRYB103K50
	C1001,C1002,C1004,C1008,C1135		CKSRYB104K16
	C1151,C1202,C1203,C1222,C1511		CKSRYB104K16
	C1701,C1702,C1704,C1710-C1714		CKSRYB104K16
	C1716,C1751-C1754,C1757,C9004		CKSRYB104K16
	C9006,C9008,C9017,C9019		CKSRYB104K16
	C1405,C1406		CKSRYB152K50
	C1111		CKSRYB153K25
	C1707		CKSRYB182K50
	C1125		CKSRYB221K50
	C1131		CKSRYB222K50

Mark	No.	Description	Part No.
	C1107		CKSRYB223K50
	C1110,C1403,C1404,C1407,C1408		CKSRYB331K50
	C1115,C1128		CKSRYB332K50
	C1113		CKSRYB333K16
	C1212		CKSRYB471K50
	C1507		CKSRYB472K50
	C1116,C1142		CKSRYB473K16
	C1401,C1402		CKSRYB561K50
	C1118,C1201,C1204,C1206		CKSRYF104Z25

RESISTORS

	R1103		RS1/10S100J
	R1704		RS1/16S2001F
	Other Resistors		RS1/16S□□□J

OTHERS

	X1201	CRYSTAL RESONATOR (16.9344MHz)	PSS1008
	X1501	CERAMIC RESONATOR (6MHz)	RSS1050
	X1751	CHIP CRYSTAL (27MHz)	VSS1086
	CN1004	16P FFC CONNECTOR	52044-1645
	CN1003	3P TOP POST	B3P-SHF-1AA
	JA1201	OPTICAL LINK OUT	GP1F32T
	CN1002	FFC CONNECTOR 13P	SLW13R-1C7
	CN1001	FFC CONNECTOR 15P	SLW15R-1C7
	JA1701	1P PIN JACK	VKB1063

C MOTOR ASSY

SWITCH

	S9503		ASG7009

OTHERS

	J9502	JUMPER WIRE 4P	D20PWW0405E
		MOTOR PULLEY	PNW1634
		CARRIAGE MOTOR (LOADING)	VXM1033

D SW ASSY

SWITCHES

	S9502		ASG7009
	S9501		DSG1017

OTHERS

	J9501	JUMPER WIRE 6P	D20PWY0610E

E TRADE ASSY

OTHERS

	CN9501	6P JUMPER CONNECTOR	52147-0610
	CN9001	KR CONNECTOR	S6B-PH-K-S
	CN9002	FFC CONNECTOR 13P	SLW13R-1C7

Mark	No.	Description	Part No.

F AF ASSY (XWZ3313)

SEMICONDUCTORS

Mark	No.	Part No.
⚠	IC3501,IC3502	AN4558S
	IC3836	BA3838F
⚠	IC2101,IC3101,IC3102	BA4558F-HT
	IC5691	BA4558F-HT
	IC5891,IC5892	BU4094BCF
	IC2201	HA12136AF
	IC2301	HA12211NT
	IC3001	LC75394NED
⚠	IC42,IC51	NJM7805FA
⚠	IC32	NJM7812FA
	IC3301	STK407-090B
	Q3354,Q3601,Q3621	2SA1037K
	Q2806	2SB1197K
⚠	Q51	2SB1237X
	Q52	2SB1237X
	Q2803,Q2804	2SC1815
	Q2801	2SC2240
	Q2102,Q2201,Q2202,Q3101,Q3102	2SC2412K
	Q3353,Q3603,Q3605-Q3608,Q53	2SC2412K
	Q3081	2SD1858X
⚠	Q31	2SD2012
	Q2203,Q2204,Q2805,Q3311,Q3312	2SD2114K
	Q2301,Q2302,Q3501,Q3502	2SK368
	Q3313,Q3503	DTA124EK
	Q2104,Q2105,Q3314	DTC124EK
	Q2103,Q2306,Q2802,Q2807	DTC143EK
⚠	Q3352	IRF540A
⚠	Q3351	IRF9540A
⚠	D3301,D3302	1SR139-100
	D2191,D2301-D2306,D3101,D3102	1SS133
	D3351-D3354,D3361,D3362,D3601	1SS133
	D3603,D3604,D3621,D3622	1SS133
	D3625,D3626	1SS133
	D2102,D2103,D2201,D2202,D3051	1SS355
⚠	D3355,D3356	20E2-FC
	D3083	MTZJ11C
	D61	MTZJ12C
	D35,D36	MTZJ15C
	D3359,D3360	MTZJ18B
	D3363,D3364	MTZJ39C
	D2001	MTZJ6.2A
	D48,D53	MTZJ6.8C
	D3357,D3358	MTZJ7.5C

COILS AND FILTERS

	L3331,L3332	AF CHOKE COIL	ATH-133
	L2801	OSC COIL	ATX7002
	L2301,L2302		LTA822J
	L101	FERRITE BEAD	VTH1024
	F2201,F2202	MPX FILTER	XTF3002
	L3991	AXIAL INDUCTOR	XTL3001

RELAY

	RY3601	ASR7008

Mark	No.	Description	Part No.

CAPACITORS

Mark	No.	Part No.
	C2301,C2302	CCSRCH100D50
	C3047,C3048	CCSRCH101J50
	C2192	CCSRCH220J50
	C3319,C3320	CCSRCJ3R0C50
	C3311,C3312,C3507,C3508	CEANL1R0M50
	C3317,C3318	CEANP220M35
	C3621	CEANP2R2M2A
	C3313,C3314	CEANP2R2M50
	C3441	CEANP330M2A
	C2207,C2803,C2810,C3045,C3081	CEAT100M50
	C3091,C3115,C32,C33,C35	CEAT100M50
	C3602,C3842,C43,C52	CEAT100M50
	C5691,C5692	CEAT100M50
	C2002,C2316	CEAT101M16
	C3303,C3304	CEAT101M50
	C2312,C2313,C3035,C3036,C3110	CEAT1R0M50
	C3506	CEAT1R0M50
	C2106,C2214,C2215,C2321,C2322	CEAT220M50
	C53	CEAT220M50
	C2001,C3601	CEAT221M16
⚠	C41	CEAT222M25
	C2201,C2202,C2205,C2206	CEAT2R2M50
	C2212,C2213,C2319,C2320	CEAT2R2M50
	C3005-C3010,C3015-C3018,C3037	CEAT2R2M50
	C3039,C3041-C3044,C3082,C3104	CEAT2R2M50
	C2804,C2805	CEAT330M16
	C3107	CEAT3R3M50
	C3841	CEAT470M16
	C3501,C3502,C3509,C3510	CEAT470M25
	C3108,C3109,C3857	CEAT4R7M50
	C3021,C3022	CEATR10M50
	C2203,C2204	CEATR22M50
	C3102,C3325	CEATR47M50
	C3046	CEJA100M50
	C3038,C3040	CEJA2R2M50
	C3027,C3028	CFTLA154J50
	C3023,C3024	CFTLA474J50
	C2802	CKCYB681K2H
	C2194	CKSQYB105K10
	C3845	CKSQYB224K16
	C5892	CKSRYB102K50
	C2315,C2317,C2318,C3053,C3098	CKSRYB103K50
	C3103	CKSRYB103K50
	C1992,C1993,C2191,C2193,C3099	CKSRYB104K16
	C3846,C3847,C5891	CKSRYB104K16
	C3033,C3034	CKSRYB122K50
	C2208,C2209	CKSRYB152K50
	C3315,C3316	CKSRYB222K50
	C2323,C2326	CKSRYB223K50
	C2812,C2813	CKSRYB272K50
	C3029,C3030	CKSRYB273K16
	C2808,C2809	CKSRYB332K50
	C2333,C2334	CKSRYB392K50
	C2807	CKSRYB472K50
	C3101,C3111,C3112,C3844	CKSRYB473K16
	C2303,C2304,C2343,C2344	CKSRYB561K50
	C3019,C3020,C3031,C3032	CKSRYB682K50
	C3503,C3504	CKSRYB682K50
	C3025,C3026	CKSRYB683K16
	C2307,C2308,C2331,C2332	CKSRYB821K50

Mark	No.	Description	Part No.
	C3331-C3333		CKSRYF104Z25
	C2801		CQHA822J2A
	C2210,C2211		CQMBA103J50
	C2806		CQMBA223J50

RESISTORS

	R2813		RD1/2LMF471J
	R2809		RD1/2LMF4R7J
	R2812		RD1/2LMF680J
	R54		RD1/2PM101J
	R52		RD1/2PM221J
	R3333,R3334		RD1/4LMF100J
	R3353,R3354		RD1/4PU101J
	R3081		RD1/4PU221J
	R3317,R3318		RD1/4PU823J
	R3605		RS1/10S103J
	R3357,R3358		RS1/10S153J
	R2309		RS1/10S222J
	R3330,R3611,R3612		RS1/10S223J
	R2001		RS1/10S471J
	R3319,R3320		RS1/10S561J
	R3355,R3356		RS1/10S563J
	R3315,R3316,R3603,R3604		RS1/10S823J
	R61		RS1LMF821J
⚠	R3991,R3992		RS2LMF331J
	R3601,R3602		RS3LMFR22J
	VR2303-VR2306 (10kΩ)		VCP1156
	VR2301,VR2302 (100kΩ)		VCP1162
	VR2801,VR2802 (220kΩ)		VCP1164
	Other Resistors		RS1/16S□□□J

OTHERS

		14P CABLE HOLDER	51063-1405
	CN2302	KR CONNECTOR	B2B-PH-K-S
	CN2303	KR CONNECTOR	B3B-PH-K-R
	CN2301	KR CONNECTOR	B3B-PH-K-S
	J11	JUMPER WIRE	D15A14-450-2651
	CN1053	16P FFC CONNECTOR	HLEM16S-1
	CN5105	27P FFC CONNECTOR	HLEM27S-1
	CN5106	5P FFC CONNECTOR	HLEM5S-1
	CN3051	14P PLUG	KM200IB14
		PCB BINDER	VEF1040
	JA3001,JA3441	2P PIN JACK	VKB1060
	CN3331	8P SPEAKER TERMINAL	XKE3004
	JA3991	HEADPHONE JACK	XKN3004

F AF ASSY (XWZ3300)

SEMICONDUCTORS

⚠	IC3501,IC3502	AN4558S
⚠	IC3836	BA3838F
⚠	IC2101,IC3101,IC3102	BA4558F-HT
	IC5691	BA4558F-HT
	IC5891	BU4094BCF
	IC2301	HA12211NT
	IC3001	LC75394NED
⚠	IC42,IC51	NJM7805FA
⚠	IC32	NJM7812FA
⚠	IC3301	STK407-070B

Mark	No.	Description	Part No.
	Q3354,Q3601,Q3621		2SA1037K
	Q51,Q52		2SB1237X
	Q2803,Q2804		2SC1815
	Q3101,Q3102,Q3353,Q3603		2SC2412K
	Q3605-Q3608,Q53		2SC2412K
	Q3081		2SD1858X
⚠	Q31		2SD2012
	Q2805,Q3311,Q3312		2SD2114K
	Q2301,Q2302,Q3501,Q3502		2SK368
	Q3313,Q3503		DTA124EK
	Q3314		DTC124EK
	Q2306		DTC143EK
⚠	Q3351		IRFI9Z34G
⚠	Q3352		IRFIZ34G
⚠	D3301,D3302		1SR139-100
⚠	D2191		1SS133
	D2301-D2306		1SS133
⚠	D3101,D3102		1SS133
	D3351-D3354,D3361,D3362,D3601		1SS133
	D3603,D3604,D3621,D3622		1SS133
	D3625,D3626		1SS133
	D2201,D2202,D3051		1SS355
⚠	D3355,D3356		20E2-FC
	D3083		MTZJ11C
	D61		MTZJ12C
	D35,D36		MTZJ15C
	D3359,D3360		MTZJ18B
	D3363,D3364		MTZJ39C
	D2001		MTZJ6.2A
	D48,D53		MTZJ6.8C
	D3357,D3358		MTZJ7.5C

COILS

	L3331,L3332	AF CHOKE COIL	ATH-133
	L2801	OSC COIL	ATX7002
	L2301,L2302		LTA822J
	L3991	AXIAL INDUCTOR	XTL3001

RELAY

	RY3601	ASR7008

CAPACITORS

	C2335-C2338	CCCCH270J50
	C2301,C2302	CCSRCH100D50
	C3047,C3048	CCSRCH101J50
	C2192	CCSRCH220J50
	C3319,C3320	CCSRCJ3R0C50
	C3311,C3312,C3507,C3508	CEANL1R0M50
	C3317,C3318	CEANP220M35
	C3621	CEANP2R2M2A
	C3313,C3314	CEANP2R2M50
⚠	C3441	CEANP330M2A
	C2810,C3045,C3081,C3091,C3115	CEAT100M50
	C32,C33,C35,C3602,C3842	CEAT100M50
	C43,C52,C5691,C5692	CEAT100M50
	C2002,C2316	CEAT101M16
	C3303,C3304	CEAT101M50
	C2312,C2313,C3035,C3036,C3110	CEAT1R0M50
	C3506	CEAT1R0M50
	C2214,C2215,C2321,C2322,C53	CEAT220M50
	C2001,C3601	CEAT221M16
⚠	C41	CEAT222M25

Mark	No.	Description	Part No.
	C2212,C2213,C2319,C2320		CEAT2R2M50
	C3005-C3010,C3015-C3018,C3037		CEAT2R2M50
	C3039,C3041-C3044,C3082,C3104		CEAT2R2M50
	C2804,C2805		CEAT330M16
	C2351,C2352,C3107		CEAT3R3M50
	C3841		CEAT470M16
	C3501,C3502,C3509,C3510		CEAT470M25
	C3108,C3109,C3857		CEAT4R7M50
	C3021,C3022		CEATR10M50
	C3102,C3325		CEATR47M50
	C3046		CEJA100M50
	C3038,C3040		CEJA2R2M50
	C3027,C3028		CFTLA154J50
	C3023,C3024		CFTLA474J50
	C2194		CKSQYB105K10
	C3845		CKSQYB224K16
	C2315,C2317,C2318,C3053,C3098		CKSRYB103K50
	C3103		CKSRYB103K50
	C1992,C1993,C2191,C2193,C3099		CKSRYB104K16
	C3846,C3847,C5891		CKSRYB104K16
	C3033,C3034		CKSRYB122K50
	C3315,C3316		CKSRYB222K50
	C2323,C2326		CKSRYB223K50
	C2812,C2813		CKSRYB272K50
	C3029,C3030		CKSRYB273K16
	C2808,C2809		CKSRYB332K50
	C2333,C2334		CKSRYB392K50
	C2807		CKSRYB472K50
	C3101,C3111,C3112,C3844		CKSRYB473K16
	C2303,C2304,C2343,C2344		CKSRYB561K50
	C3019,C3020,C3031,C3032		CKSRYB682K50
	C3503,C3504		CKSRYB682K50
	C3025,C3026		CKSRYB683K16
	C2307,C2308,C2331,C2332		CKSRYB821K50
	C3331-C3333		CKSRYF104Z25
	C2801		CQHA822J2A
	C2806		CQMBA223J50
RESISTORS			
	R2812		RD1/2LMF470J
	R2809		RD1/2LMF4R7J
	R54		RD1/2PM101J
	R52		RD1/2PM221J
	R3333,R3334		RD1/4LMF100J
	R3353,R3354		RD1/4PU101J
	R2113		RD1/4PU103J
	R3081		RD1/4PU221J
	R2351,R2352		RD1/4PU473J
	R3317,R3318		RD1/4PU823J
	R3605		RS1/10S103J
	R3357,R3358		RS1/10S153J
	R2309		RS1/10S222J
	R3330,R3611,R3612		RS1/10S223J
	R2001		RS1/10S471J
	R3319,R3320		RS1/10S561J
	R3355,R3356		RS1/10S563J
	R3315,R3316,R3603,R3604		RS1/10S823J
	R61		RS1LMF821J
⚠	R3991,R3992		RS2LMF331J
	R3601,R3602		RS3LMFR22J
	VR2802 (100kΩ)		VCP1162
	Other Resistors		RS1/16S□□□J

Mark	No.	Description	Part No.
OTHERS			
		14P CABLE HOLDER	51063-1405
	CN3331	4P SPEAKER TERMINAL	AKE7018
	CN2302	KR CONNECTOR	B2B-PH-K-S
	CN2303	KR CONNECTOR	B3B-PH-K-R
	CN2301	KR CONNECTOR	B3B-PH-K-S
	J11	JUMPER WIRE	D15A14-450-2651
	CN1053	16P FFC CONNECTOR	HLEM16S-1
	CN5105	27P FFC CONNECTOR	HLEM27S-1
	CN5106	5P FFC CONNECTOR	HLEM5S-1
	CN3051	14P PLUG	KM200IB14
		PCB BINDER	VEF1040
	JA3001,JA3441	2P PIN JACK	VKB1060
	JA3991	HEADPHONE JACK	XKN3004

G SECONDARY ASSY

SEMICONDUCTORS

	IC71 (1.25A)	AEK7010
	IC41 (3A)	AEK7015
	IC12 (10A)	AEK7022
	IC21,IC22 (7A)	AEK7047
	IC11 (10A)	AEK7068
	Q71	2SA965
	D73	1SS133
	D11,D21	G5SBA20L
	D74	MTZJ33C
	D75	MTZJ8.2B
	D71,D72,D78-D81	S5688G

CAPACITORS

	C72	CEAT220M50
	C71	CEAT221M63
	C21,C22	CEAT332M50
	C13	CQMA223K2E
	C11,C12	XCH3001

RESISTORS

	All Resistors	RD1/4PU□□□J

OTHERS

	14P CABLE HOLDER	51063-1405

H PRIMARY ASSY

SEMICONDUCTORS

⚠	IC81	NJM7805FA
	Q81	2SD1859X
	D85,D88-D90	1SS133
⚠	D81	S1WB(A)60SD

TRANSFORMER

⚠	T2	XTT3004

SWITCH AND RELAY

⚠	S1	XKX3001
⚠	RY81	ASR7018

Mark	No.	Description	Part No.
CAPACITORS			
⚠	C1,C2 (0.01μF)		ACE7027
	C83		CEAT100M50
⚠	C82		CEAT102M25
RESISTORS			
	All Resistors		RD1/4PU□□□J
OTHERS			
	H1-H6	FUSE CLIP	AKR7001
⚠	CN1	2P VH CONNECTOR	B2P3-VH
	CN2	4P VH CONNECTOR	B4P7-VH
⚠	AN1	1P AC INLET	XKP3041

I DISPLAY ASSY

SEMICONDUCTORS		
	IC3901	BA4558F-HT
	IC3931	M65855FP
	IC5501	PDC063A
	Q5501	2SA1037K
	Q2903,Q2906,Q2908	2SB1132
	Q5602,Q5656-Q5658,Q5801	2SC2412K
	Q2910,Q2911,Q5826	DTA124EK
	Q5601	DTC124EK
	Q2901,Q2904,Q2907,Q5502,Q5604	DTC143EK
	Q5650-Q5655,Q5821-Q5825,Q5827	DTC143EK
	D5591,D5593,D5594,D5626,D5811	1SS133
	D5561-D5568	1SS181
	D2901-D2903,D5631,D5652-D5655	1SS355
	D5657,D5658,D5901	1SS355
	D3931	MTZJ5.1B
	D5610,D5611,D5615,D5616,D5618	SLP3118C51H
	D5622,D5904	SLP3118C51H
	D5601-D5608,D5612,D5614,D5617	SLP6118C51H
	D5621	SLP6118C51H
	D5902	SLP7118C51H
	D5619,D5620,D5903	SLP9118C51H
	D5651	UDZS5.6B
COILS		
	L3901,L3902	LCTB100K1608
	L3931	LCTB100K2125
	L3914,L3915 CHIP SOLID INDUCTOR	VTL1145
	L5811 AXIAL INDUCTOR	XTL3004
SWITCHES		
	S5911-S5921,S5923-S5929	XSG3001
	S5931-S5940	XSG3001
	S5951	XSX3003
	S5952	XSX3004
CAPACITORS		
	C5812 (0.047F/5.5V)	ACH1246
	C3903	CCSRCH331J50
	C5821	CEAL100M16
	C3943	CEJA101M16
	C5803	CEJA1R0M50
	C3901,C3902,C3904,C3906	CEJA2R2M50
	C3905,C5510,C5811,C5814	CEJA470M16
	C3937	CEJA4R7M50
	C3932	CEJAR47M50
	C3933	CEJQ220M10

Mark	No.	Description	Part No.
	C5997,C5998		CKSQYB104K25
	C5999		CKSQYB105K10
	C5625		CKSQYF224Z25
	C5804,C5951,C5953		CKSRYB102K50
	C3911,C3931,C3934,C3940		CKSRYB103K50
	C5816		CKSRYB104K16
	C3939		CKSRYB123K50
	C5506		CKSRYB471K50
	C3907,C3938,C5503,C5504,C5509		CKSRYB472K50
	C3935,C5507,C5508		CKSRYB473K16
	C3942,C5634,C5901		CKSRYF104Z25
	C5813,C5822		CKSRYF473Z50
RESISTORS			
	R5506,R5508		RA7T104J
	R2905,R5524,R5536		RD1/4PU102J
	R3940		RD1/4PU121J
	R5530		RD1/4PU221J
	R5609		RD1/4PU391J
	R5601,R5613,R5617		RD1/4PU560J
	R2902,R2907		RD1/4PU681J
	R5805		RS1/10S101J
	R5902-R5904		RS1/10S221J
	R5614,R5616		RS1/10S471J
	R5606-R5608		RS1/10S620J
	VR3901,VR3931 (10k-x1)		XCS3002
	Other Resistors		RS1/16S□□□J
OTHERS			
	X5501	CERAMIC RESONATOR (10MHz)	DSS1048
		2P CABLE HOLDER	51048-0200
		4P CABLE HOLDER	51048-0400
	CN5502	FFC CONNECTOR 5P	52492-0520
	JA3901,JA3902	REMOTE CONTROL JACK	AKN7004
	J5601	JUMPER WIRE 2P	D20PYY0210E
	J81	JUMPER WIRE 4P	D20PYY0425E
	5901	REMOTE RECEIVER UNIT	GP1U28X
	CN2901	FFC CONNECTOR 15P	HLEM15R-1
	CN5501	FFC CONNECTOR 27P	HLEM27R-1
	5621	FL HOLDER	VNF1096
	V5621	FL TUBE	XAV3009

J BLUE LED ASSY

SEMICONDUCTOR			
	D5613		E1L4E-7B(123)
OTHERS			
		2P CABLE HOLDER	51048-0200
		LED HOLDER	XAK3154

6. ADJUSTMENT

6.1 TUNER SECTION

■ FM Tuner Section

• Set the mode selector to FM BAND.
• Connect the wiring as shown in Fig. 1.

Step No.	Adjustment Title	FM SG (1kHz, ± 75kHz dev.)		Reception Frequency Display	Adjustment Location	Specifications
		Frequency (MHz)	Level (dBμV)			
1	Front End Sensitivity	98	0 to 30	98MHz	L6402 T6401	Adjust so that the DC voltage between the IC6201 - pin 20 and GND becomes at maximum level.
2	TUNED IND. Lighting Level	98	18 ± 2	98MHz	VR6201	Adjust so that the indicator of TUNED IND. starts to light up.

Note:
Before adjusting, make sure there is no gap between L6401 and L6402. If there is a gap between them, bring them into contact with each other first, and then make adjustments.

■ AM Tuner Section

• Set the mode selector to AM BAND.
• Connect the wiring as shown in Fig. 1.

Step No.	Adjustment Title	AM SG (400Hz, 30% Mod.)		Reception Frequency Display	Adjustment Location	Specifications
		Frequency (kHz)	Level (dBμV/m)			
1	Front End Sensitivity	999 (∗1)	35 to 45	999kHz (∗1)	T6201	Adjust so that the DC voltage between the IC6201 - pin 20 and GND becomes at maximum level.

Note (∗1) : For the area using 10kHz step, frequency should be 1000kHz.

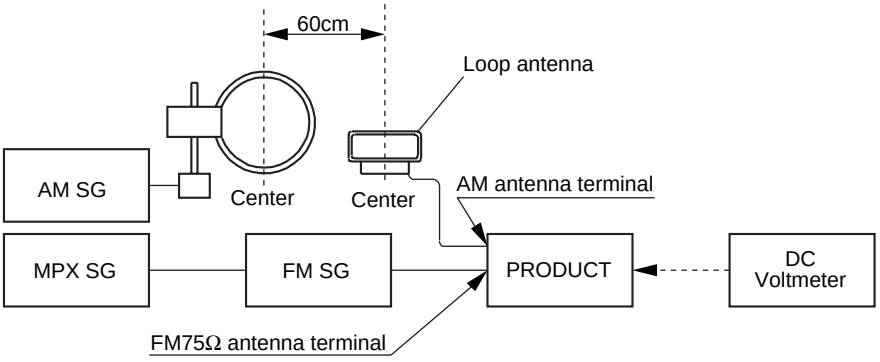


Fig.1 AM and FM Adjustment Wiring Diagram

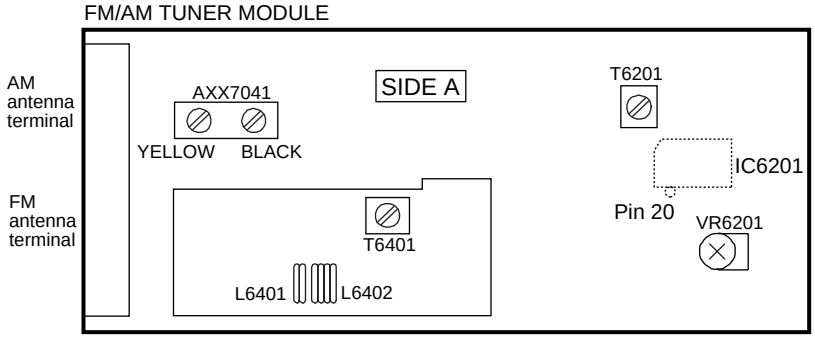
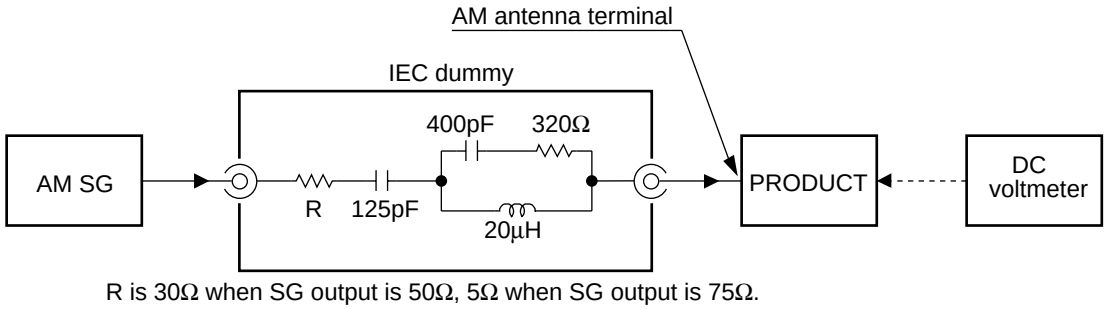


Fig.2 Adjustment Point

■ AM Tuner SW Section (XR-VS90SW and XR-VS70SW only)

• Set the mode selector to SW2.
• Connect the wiring as shown in Fig. 3.

Step No.	Adjustment Title	AM SG (400Hz, 30% Mod.)		Reception Frequency Display	Adjustment Location	Specifications
		Frequency (MHz)	Level (dBμV/m)			
1	AM Front End Sensitivity	14	25 to 35	14 MHz	L6303	Adjust so that the DC voltage between the IC6201 - pin 20 and GND becomes at maximum level.



R is 30Ω when SG output is 50Ω, 5Ω when SG output is 75Ω.

Fig. 3 SW Adjustment Wiring Diagram

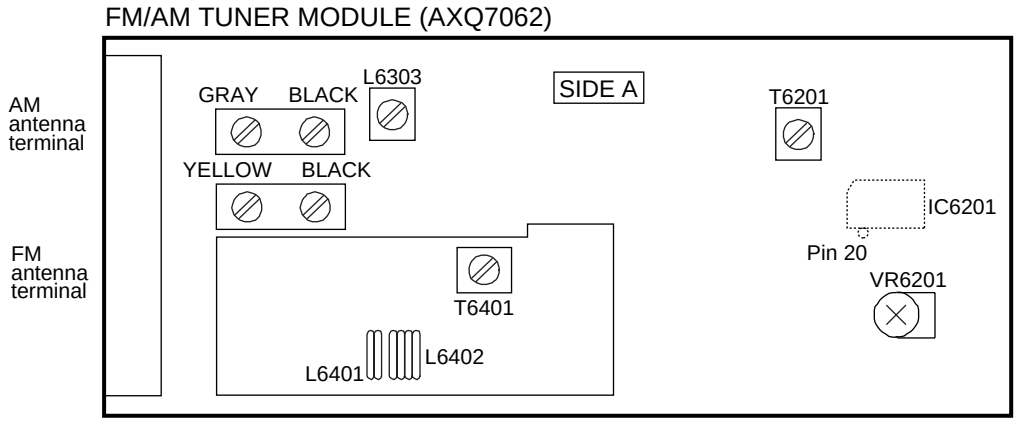


Fig. 4 Adjustment Point

6.2 CASSETTE DECK SECTION

6.2.1 For XR-VS90SW and XR-VS90

• Adjustment points and test points are shown in Fig. 5, Fig. 7 and Fig. 9.

■ Mechanical Adjustment

• Test tape : NCT-111 (3kHz, 30min).

1. Tape Speed Adjustment

No.	Mode	Test Tape	Adjusting Points	Measurement Points	Adjustment Procedure	Remarks
1	Deck I PLAY	NCT-111 (Playback : 3kHz)	ADJ. VR on CASSETTE MECHA (Fig. 5)	TAPE TEST POINT (Rch) (AF Assy)	Press the PLAY SW and adjust so that the reading becomes 3000Hz ± 20Hz. Confirm that wow & flutter level is below 0.3% (in the reverse direction, confirm that the reading is within 3000Hz ± 60Hz).	

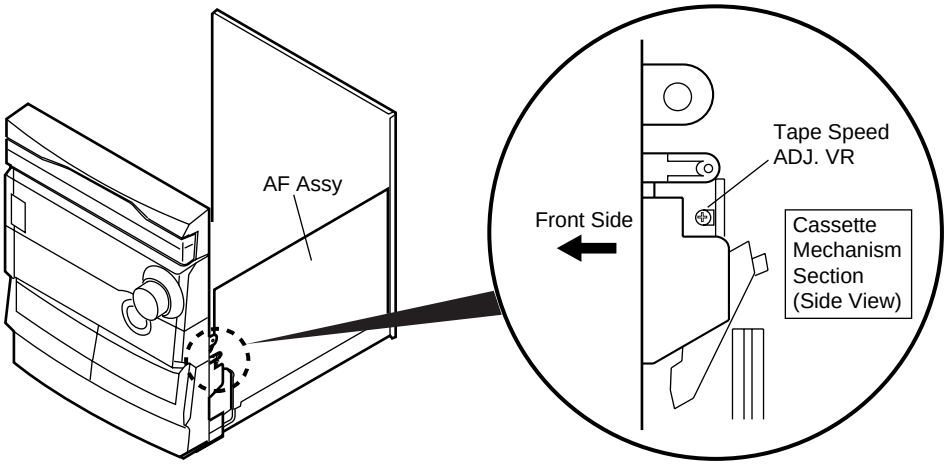


Fig. 5 Tape Speed ADJ. Point

■ Electrical Adjustment

Check the following before starting.

(1) Confirm that the tape speed adjustment has been completed.
(2) Clean the heads and demagnetize them using a head eraser.
(3) Set the measurement level to 0 dBV = 1 Vrms.
(4) Use the specified tape for adjustment. Use the labeled (A) side of the test tape.
STD-331E : For playback check
STD-632 : Normal blank tape
(5) Provide yourself with the following measuring devides:
• AC millivoltmeter
• Low-frequency oscillator
• Attenuator
• Oscilloscope
(6) Adjust both right and left channels unless otherwise specified.
(7) Turn the DOLBY NR switch off unless otherwize specified.
(8) Warm up the unit for several minutes before adjustment.
In particular, be sure to warm up the unit in the REC/PLAY mode for 3 to 5 minutes before starting recording/playback frequency characteristics adjustment.
(9) Always follow the indicated adjustment order.
Otherwise, a complete adjustment may not be achieved.

Playback Adjustment (Decks I and II)

(1) Head Azimuth Adjustment
(2) Playback Level Adjustment

Recording Adjustment (Deck II)

(1) Bias Oscillation Frequency Adjustment
(2) Recording Bias Adjustment
(3) Recording Level Adjustment.
(4) ALC Operation Check

∗ As the reference recording level is 250nwb/m for STD-331E, the recording level will be higher by 4 dB for STD-331B (160nwb/m). When adjusting, pay carefull attention to the type of tape used.

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

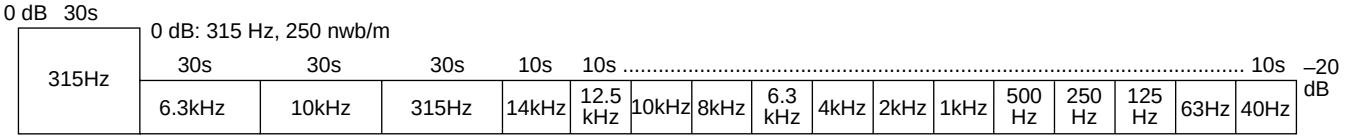

0 dB 30s
315Hz
0 dB: 315 Hz, 250 nwb/m
30s 30s 30s 10s 10s 10s
6.3kHz 10kHz 315Hz 14kHz 12.5 kHz 10kHz 8kHz 6.3 kHz 4kHz 2kHz 1kHz 500 Hz 250 Hz 125 Hz 63Hz 40Hz
–20 dB

Fig. 6 STD-331E Test Tape

■ Playback Adjustment

(1) Head Azimuth Adjustment

• Do not switch between forward and reverse operation with the screwdriver inserted.

Step	Mode	Input Signal/ Test Tape	Adjusting Points		Measurement Points	Adjustment Value	Remarks
1	PLAY	STD-331E test tape (Playback: 10kHz, –20dB)	Deck I	Head azimuth adjustment screw (Fig. 7)	TAPE TEST POINT (L, Rch) (AF Assy)	Max. playback signal level	After adjustment, apply silicon bond to the head azimuth adjustment screw.
			Deck II				

(2) Playback Level Adjustment

• Since this adjustment determines playback dolby NR level, perform it carefully.

Step	Mode	Input Signal/ Test Tape	Adjusting Points		Measurement Points	Adjustment Value	Remarks
1	PLAY	STD-331E test tape (Playback: 315Hz, 0dB)	Deck I	VR2303 (L ch) VR2304 (R ch)	TAPE TEST POINT (L, Rch) (AF Assy)	– 3.7dBV	
			Deck II	VR2305 (L ch) VR2306 (R ch)			

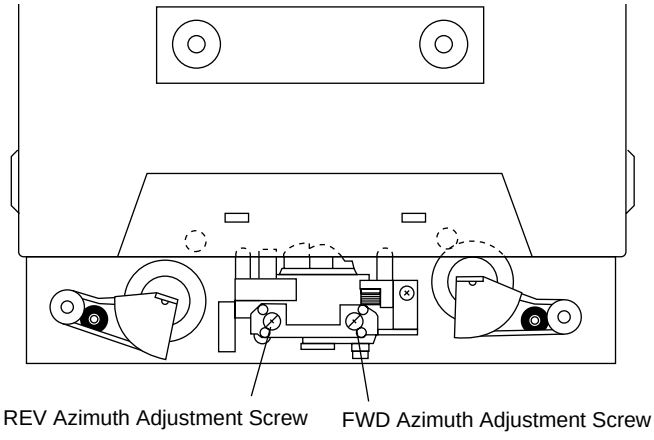


Fig. 7 Head Azimuth Adjustment Screw

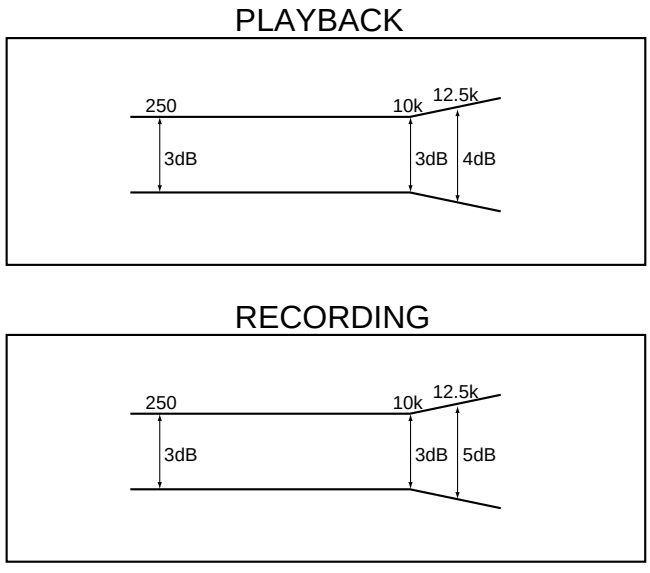


Fig. 8 Frequency Characteristics

■ Recording Adjustment

(1) Bias Oscillation Frequency Adjustment

Step	Mode	Input Signal/ Test Tape	Adjusting Points		Measurement Points	Adjustment Value	Remarks
1	REC	Load the STD-632 test tape and set the recording mode.	Deck I	————	————	Oscillation frequency to be 105.0kHz ± 2kHz.	If the REC/STOP button for four seconds while the power is in STAND BY mode, the frequency will decrease 2 to 3 kHz.
			Deck II	L2801 (AF Assy)	Between Ⓐ point Fig. 9 and GND		

(2) Recording Bias Adjustment

• Since this adjustment affects recording bias, prevent distortion from increasing due to underbias.

Step	Mode	Input Signal/Test Tape	Adjusting Points		Measurement Points	Adjustment Value	Remarks
1	REC	Input a 315 Hz signal to the AUX terminal and set the input selector to AUX.	Deck I	————	TAPE TEST POINT (L, Rch) (AF Assy)	– 23.7 dBV	
			Deck II	Input signal level			
2	REC → PLAY	Load the STD-632 test tape and record/playback the 315Hz and 10kHz signals (see the Note below)	Deck I	————	TAPE TEST POINT (L, Rch) (AF Assy)	Repeat adjustment until playback level of the 10kHz signal is within 0 ± 0.5 dB from that of the 315Hz signal.	
			Deck II	VR2801 (L ch) VR2802 (R ch)			

Note : Set the 10 kHz input signal level to the same value as the 315 Hz input signal level of step 1.

(3) Recording Level Adjustment

Step	Mode	Input Signal/Test Tape	Adjusting Points		Measurement Points	Adjustment Value	Remarks
1	REC	Input a 315 Hz signal to the AUX terminal and set the input selector to AUX.	Deck I	Input signal level	TAPE TEST POINT (L, Rch) (AF Assy)	– 7.7 dBV	
			Deck II				
2	REC → PLAY	Load the STD-632 test tape and record/playback the 315Hz signal.	Deck I	————	TAPE TEST POINT (L, Rch) (AF Assy)	Repeat recording, playback and adjustment until playback level of the 315 Hz signal becomes – 7.7 dBV.	
			Deck II	VR2301 (L ch) VR2302 (R ch)			

(4) ALC Operation Check

Step	Mode	Input Signal/Test Tape	Adjusting Points	Measurement Points	Adjustment Value	Remarks
1	REC/ PAUSE	Input a 315 Hz signal to the AUX terminal and set the input selector to AUX.	Input signal level	TAPE TEST POINT (L, Rch) (AF Assy)	– 8.2 dBV	
2			Set to a level + 10dB above the input level at step 1.		Confirm that the reading is – 2.2 ± 2.5 dBV.	

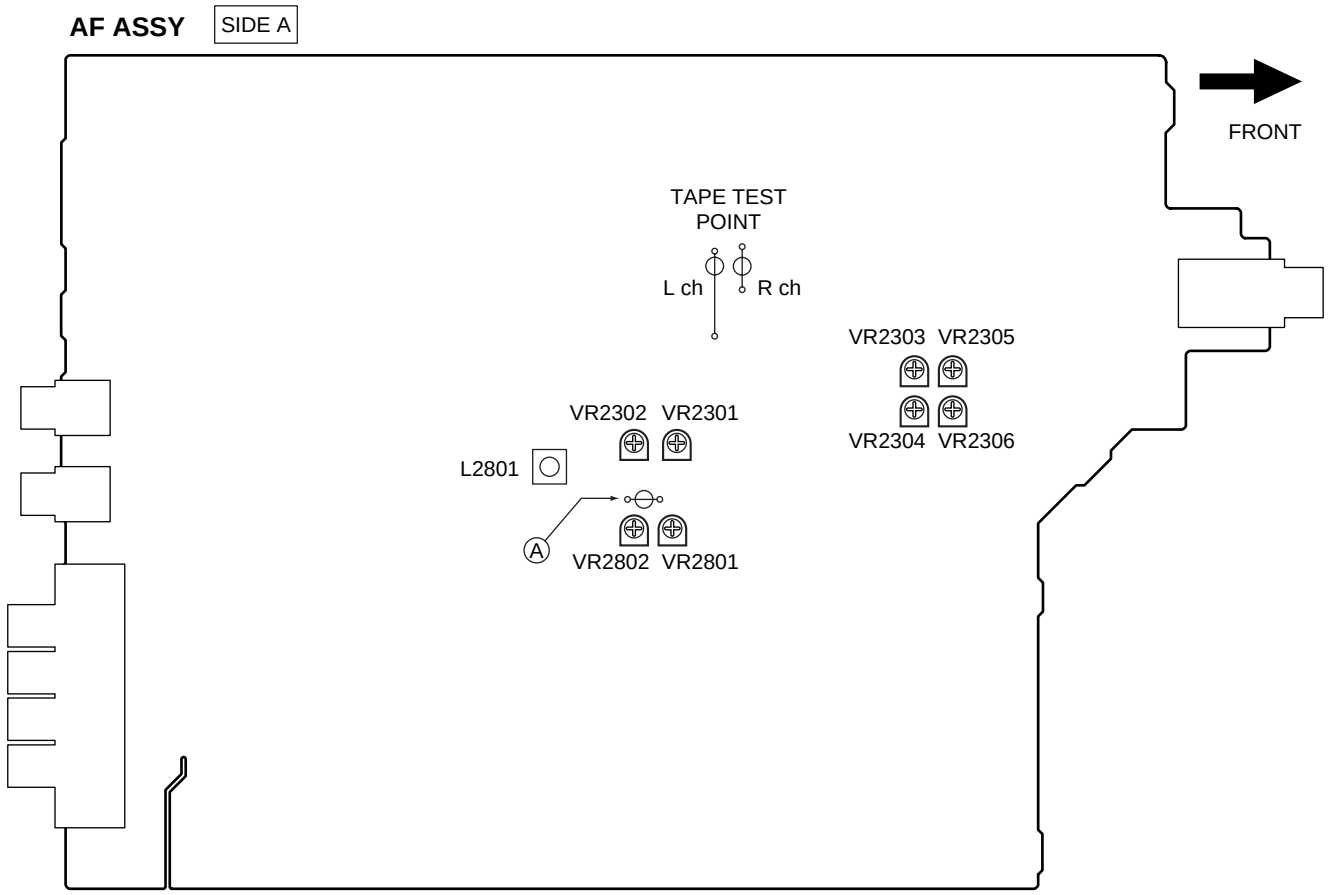


Fig. 9 Adjustment and Measurement Points

6.2.2 For XR-VS70SW and XR-VS70

• Adjustment points and test points are shown in Fig. 10, Fig. 12 and Fig. 13.

■ Mechanical Adjustment

• Test tape : NCT-111 (3kHz, 30min).

1. Tape Speed Adjustment

No.	Mode	Test Tape	Adjusting Points	Measurement Points	Adjustment Procedure	Remarks
1	Deck I PLAY	NCT-111 (Playback : 3kHz)	ADJ. VR on CASSETTE MECHA (Fig. 10)	TAPE TEST POINT (Rch) (AF Assy)	Press the PLAY SW and adjust so that the reading becomes 3000Hz ± 20Hz. Confirm that wow & flutter level is below 0.3% (in the reverse direction, confirm that the reading is within 3000Hz ± 60Hz).	

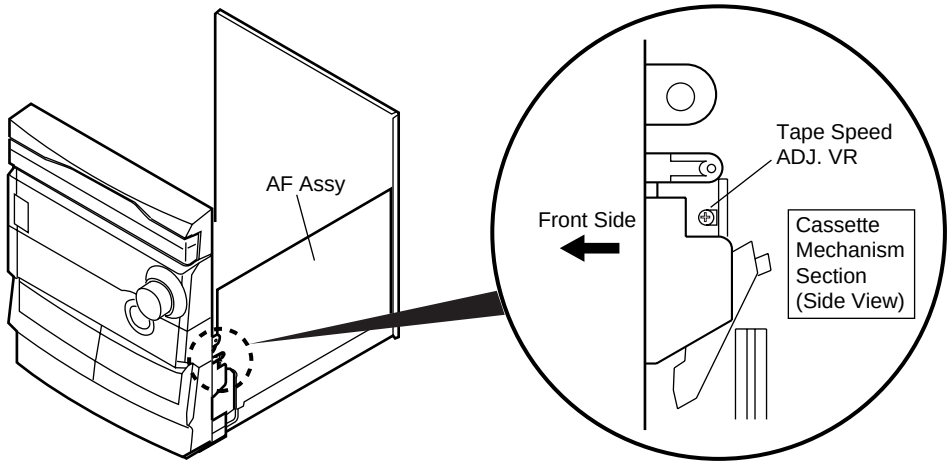


Fig. 10 Tape Speed ADJ. Point

■ Electrical Adjustment

Check the following before starting.

(1) Confirm that the tape speed adjustment has been completed.
(2) Clean the heads and demagnetize them using a head eraser.
(3) Set the measurement level to 0 dBV = 1 Vrms.
(4) Use the specified tape for adjustment. Use the labeled (A) side of the test tape.
STD-331E : For playback check
STD-632 : Normal blank tape
(5) Provide yourself with the following measuring devides:
• AC voltmeter (Noisemeter : filter off)
• AC millivoltmeter
• Low-frequency oscillator
• Attenuator
• Oscilloscope
(6) Adjust both right and left channels unless otherwise specified.
(7) Warm up the unit for several minutes before adjustment. In particular, be sure to warm up the unit in the REC/PLAY mode for 3 to 5 minutes before starting recording/playback frequency characteristics adjustment.
(8) Always follow the indicated adjustment order. Otherwise, a complete adjustment may not be achieved.

Playback Adjustment (Decks I and II)

(1) Head Azimuth Adjustment

Recording Adjustment (Deck II)

(1) Bias Oscillation Frequency Adjustment
(2) Recording Bias Adjustment

∗ As the reference recording level is 250nwb/m for STD-331E, the recording level will be higher by 4 dB for STD-331B (160nwb/m). When adjusting, pay carefull attention to the type of tape used.

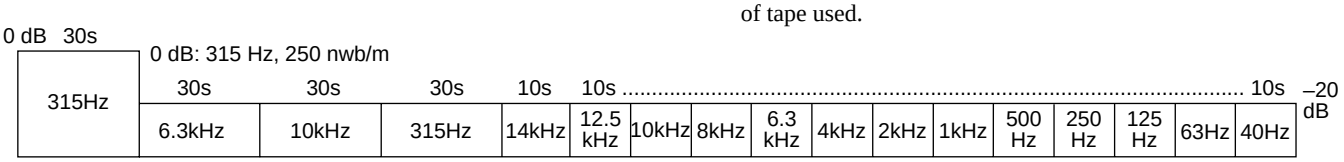


Fig. 11 STD-331E Test Tape

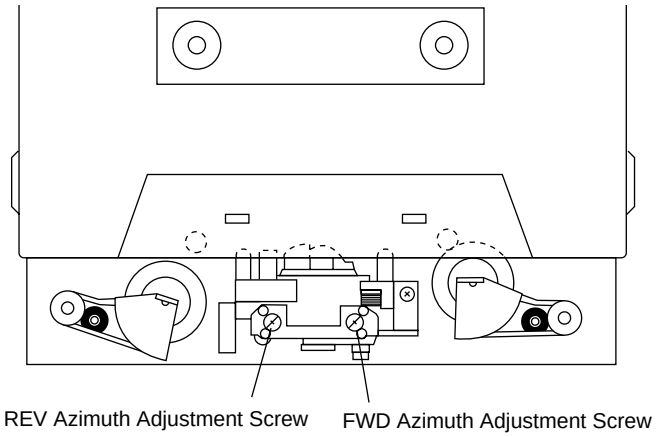


Fig. 12 Head Azimuth Adjustment Screw

■ Playback Adjustment

(1) Head Azimuth Adjustment

• Do not switch between forward and reverse operation with the screwdriver inserted.

Step	Mode	Input Signal/ Test Tape	Adjusting Points		Measurement Points	Adjustment Value	Remarks
1	PLAY	STD-331E test tape (Playback: 10kHz, –20dB)	Deck I	Head azimuth adjustment screw (Fig. 12)	TAPE TEST POINT (L, Rch) (AF Assy)	Max. playback signal level	After adjustment, apply silicon bond to the head azimuth adjustment screw.
			Deck II				

■ Recording Adjustment

(1) Bias Oscillation Frequency Adjustment

Step	Mode	Input Signal/ Test Tape	Adjusting Points		Measurement Points	Adjustment Value	Remarks
1	REC	Load the STD-632 test tape and set the recording mode.	Deck I	————	————	Oscillation frequency to be 105.0kHz ± 2kHz.	
			Deck II	L2801 (AF Assy)	Between Ⓐ point Fig. 13 and GND		

(2) Recording Bias Adjustment

• Since this adjustment affects recording bias, prevent distortion from increasing due to underbias.

Step	Mode	Input Signal/Test Tape	Adjusting Points		Measurement Points	Adjustment Value	Remarks
1	REC	Load the STD-632 test tape and record (No signal)	Deck II	VR2802 (AF Assy)	BIAS TP POINT (AF Assy)	24V to 27V	
2	REC → PLAY	Load the STD-632 test tape. Record the 315Hz and 10kHz signals at –25dBV input level (check Ⓑ point) and playback.	Deck I	————	TAPE TEST POINT (L, Rch) (AF Assy)	Repeat adjustment until playback level of the 10kHz signal is within 0 ± 1.0dB from that of the 315Hz signal.	
			Deck II	VR2802 (AF Assy)			

Note : No connecting to BIAS TP POINT at Step 2 REC → PLAY.

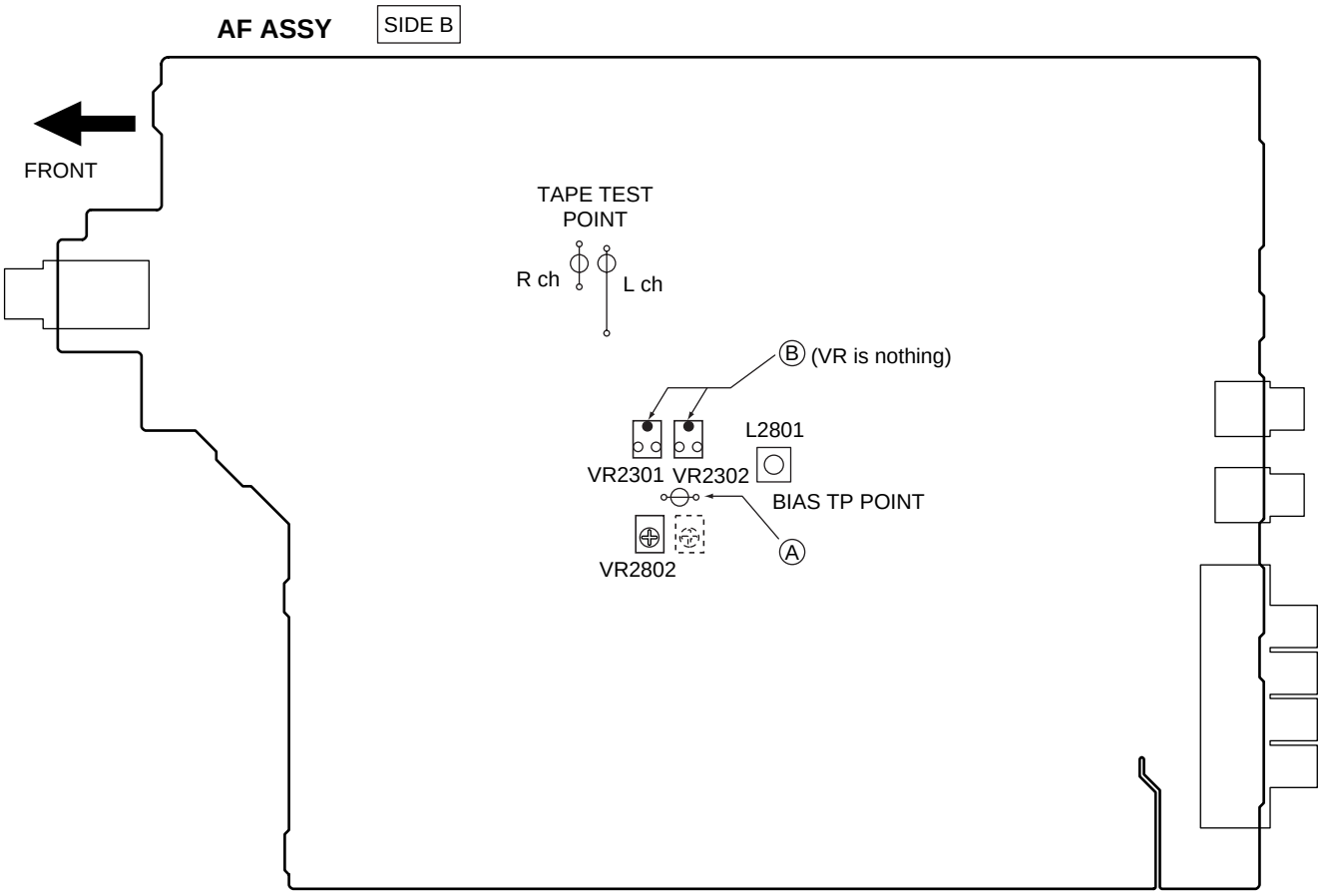


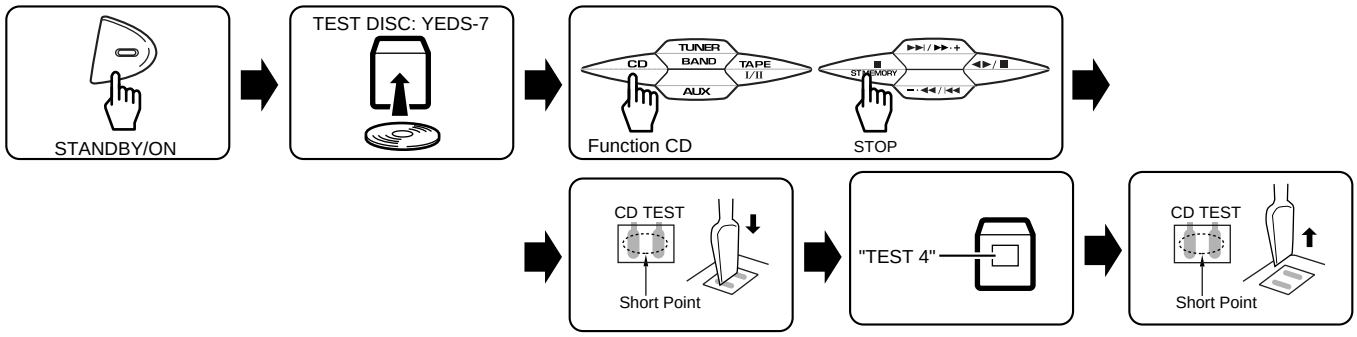
Fig. 13 Adjustment and Measurement Points

6.3 TEST MODE

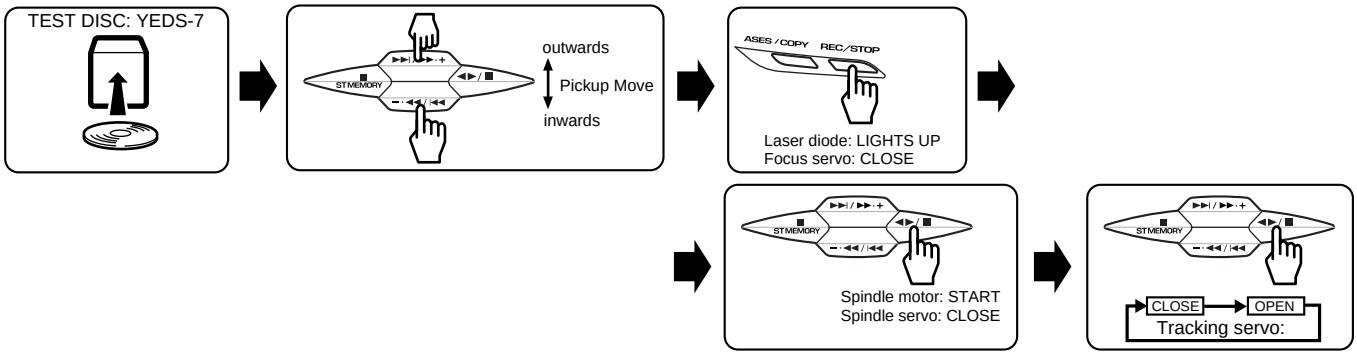
NOTE: There is no information to be shown in this CD adjustment.

■ How to Start/Cancel Test Mode

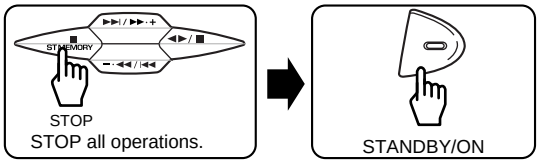
TEST MODE : ON



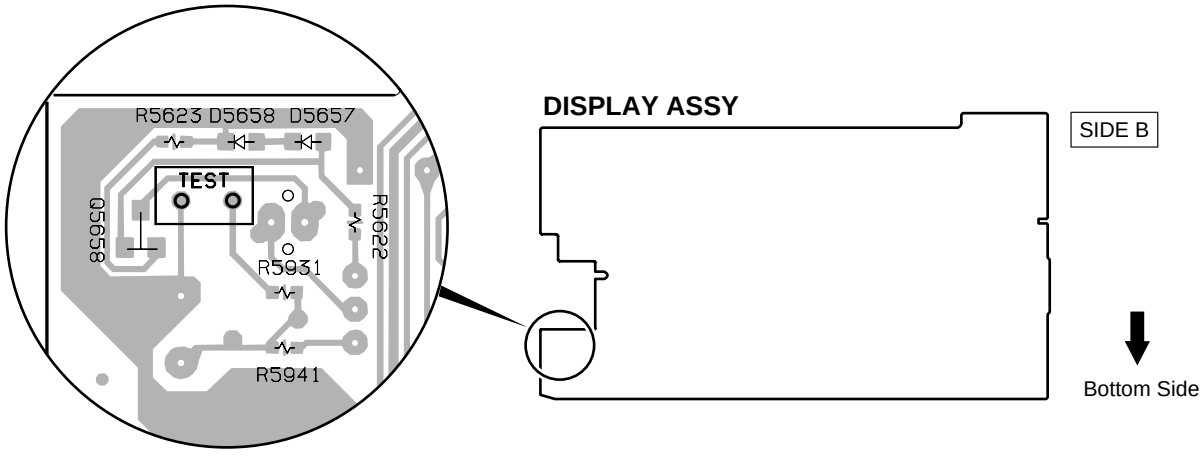
TEST MODE : PLAY



TEST MODE : STOP CANCEL



■ Test Point

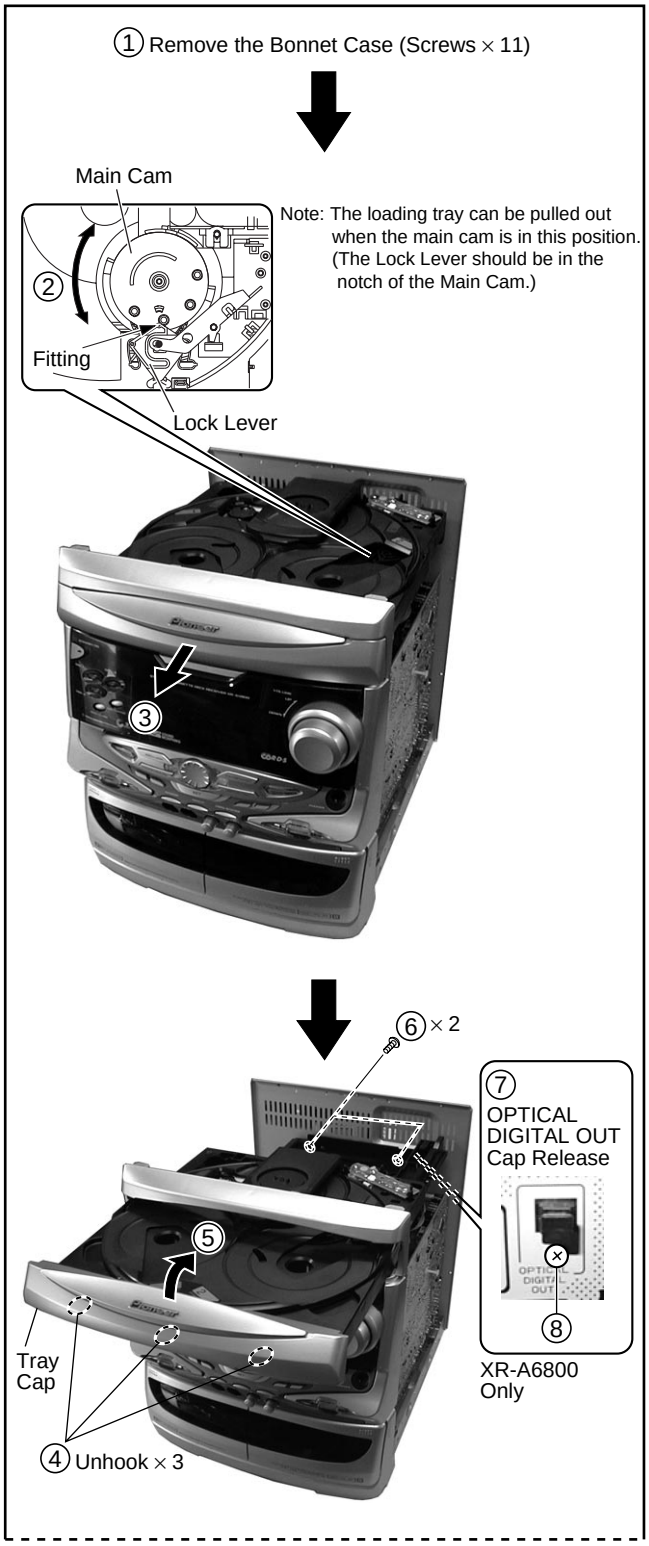


7. GENERAL INFORMATION

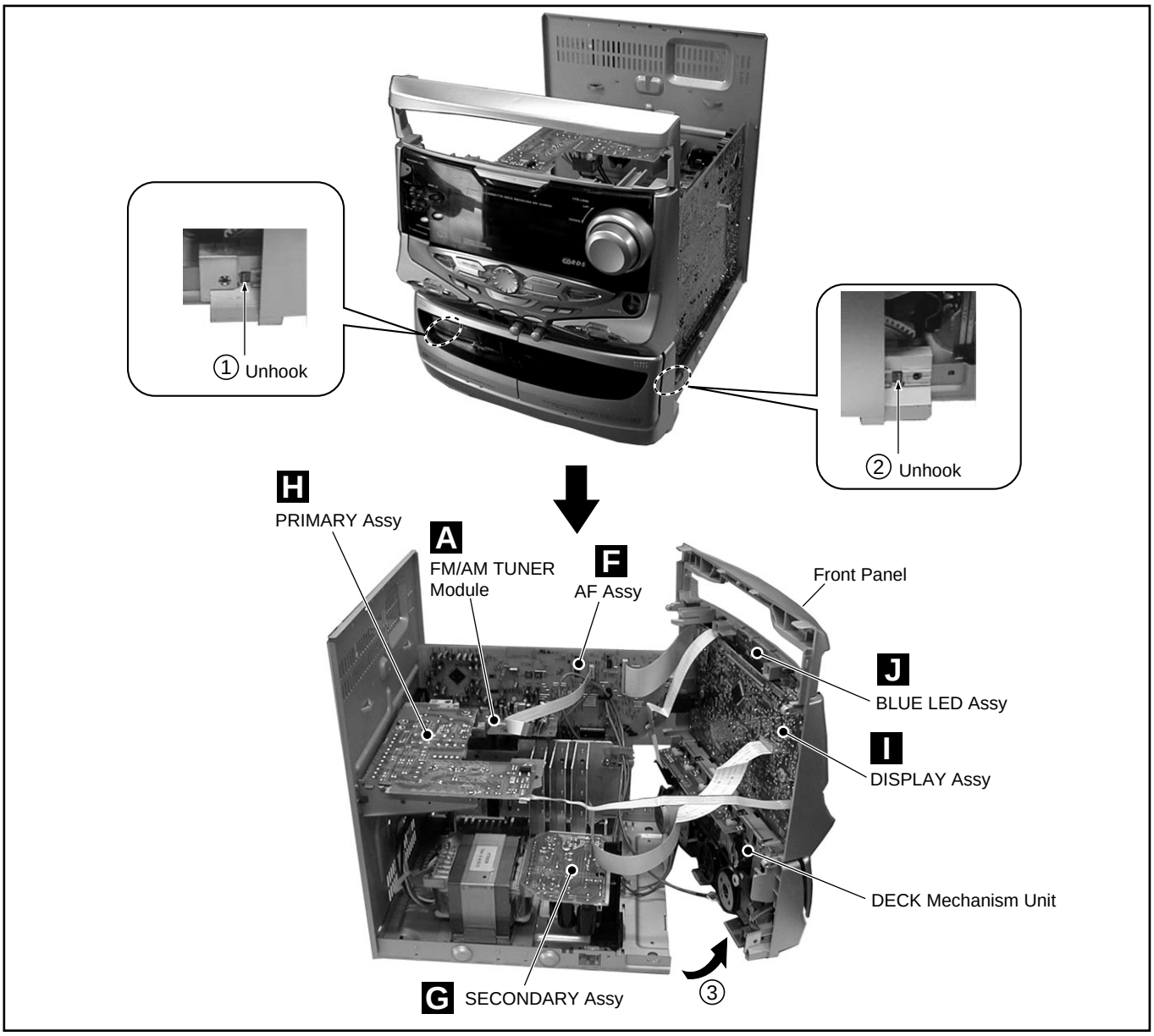
7.1 DIAGNOSIS

7.1.1 DISASSEMBLY

■ $M MECHANISM CD-2

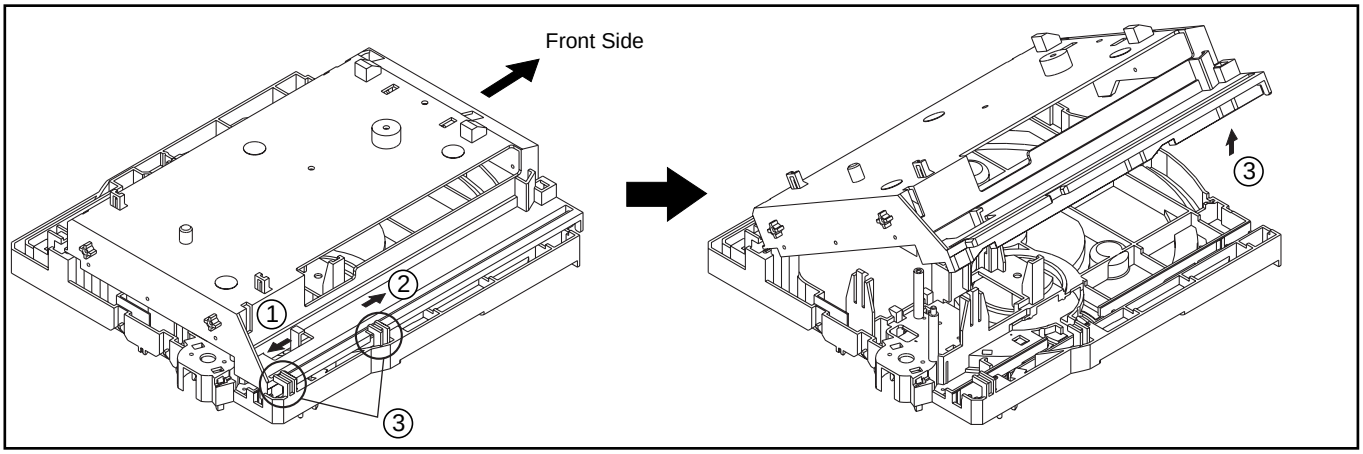

① Remove the Bonnet Case (Screws × 11)
Main Cam
Note: The loading tray can be pulled out when the main cam is in this position. (The Lock Lever should be in the notch of the Main Cam.)
②
Fitting
Lock Lever
③
⑥ × 2
⑦ OPTICAL DIGITAL OUT Cap Release
⑧
XR-A6800 Only
⑤
Tray Cap
④ Unhook × 3

■ FRONT PANEL

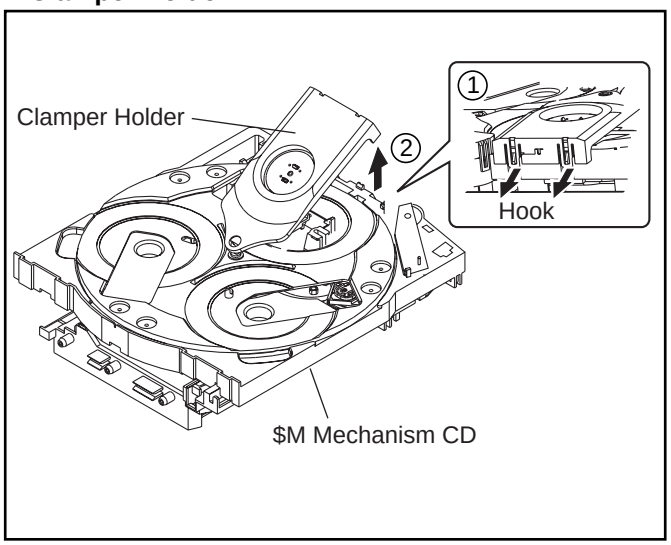


■$M MECHANISM CD-2 ADDITIONAL TO JOB

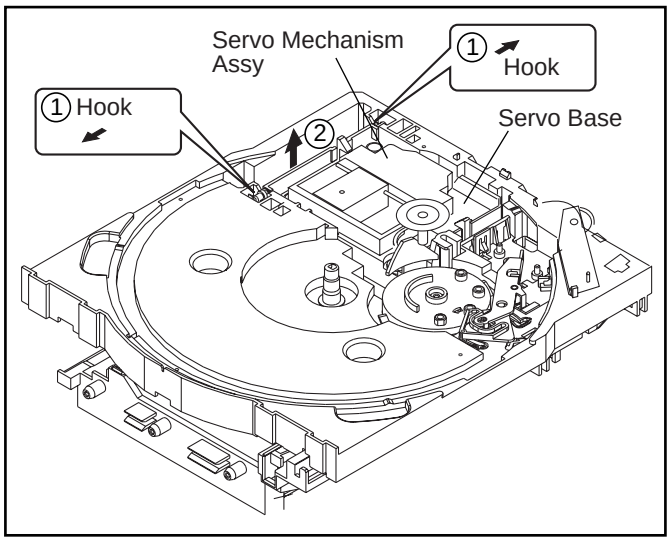
● **Mechanism Base (Bottom View)**



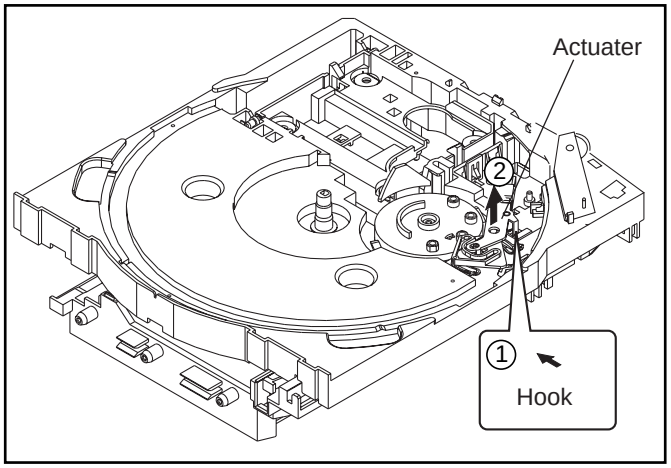
● **Clamper Holder**



● **Servo Base**

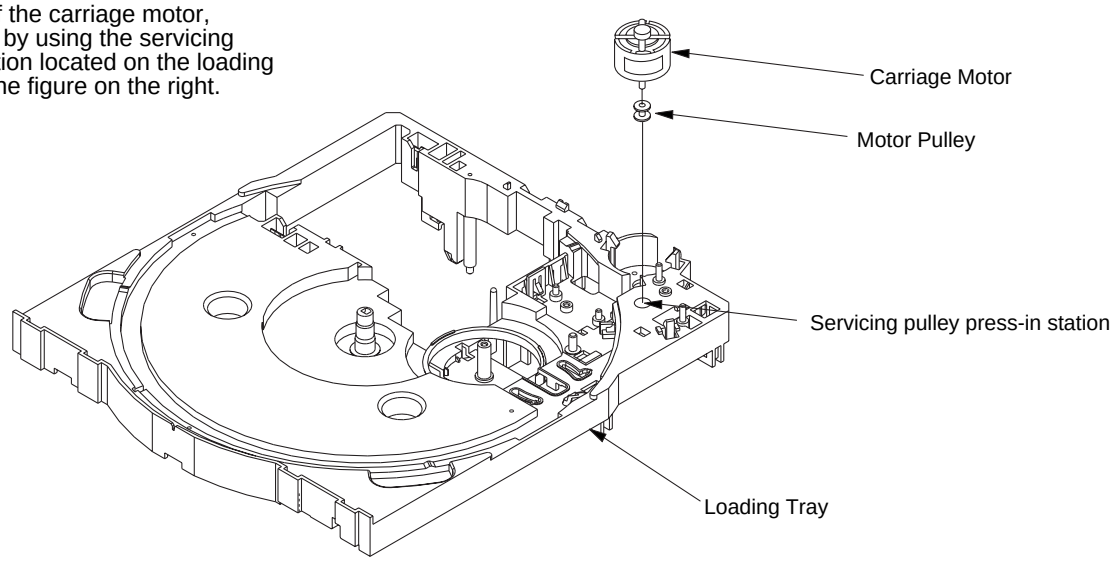


● **Actuater**



■FITTING THE PULLEY INTO THE CARRIAGE MOTOR

For replacement of the carriage motor, fit the motor pulley by using the servicing pulley press-in station located on the loading tray, as shown in the figure on the right.



7.2 PARTS

7.2.1 IC

• The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

■ PDC063A (DISPLAY ASSY : IC5501)

• System Control Microcomputer IC

● Pin Function

No.	Pin Name	I/O	Function
1	CD RESET	O	Reset output for CD decoder
2	CD SE CLK	O	Clock output for CD decoder SENS data
3	CD SENS	I	CD SENS input
4	CD LAT	O	Latch output for CD decoder data
5	CD DCLK	O	Clock output for CD decoder data
6	CD DATA	O	CD decoder data output
7	A/V mode LED	O	Audio/Visual mode LED output
8	TIMER LED	O	TIMER LED output
9	RY ON/OFF	O	RELAY ON/OFF
10	BLUE LED	O	BLUE LED output
11	XRESET	I	CPU reset input
12	VOL JOG	I	Volume JOG input
13	MORF JOG	I	Sound morphing JOG input
14	VSS	–	Ground
15	CF1	I	
16	CF2	O	
17	VDD	–	Power supply
18	KEY1	I	Key input 1 (A/D)
19	KEY2		Key input 2 (A/D)
20	KEY3		Key input 3 (A/D)
21	MS	I	Deck MS input
22	ST/TUNE	I	Tuner STEREO/TUNE input
23	SPE-IN	I	Spectrum analayzer signal input
24	–	–	
25	CD MUTE	O	CD mute output (pull-up)
26	AC	I	AC pulse interrupt input
27	SCOR	I	CD SCOR interrupt input
28	RDS CLK	I	Tuner RDS clock interrupt input
29	REMOCON	I	Remote control interrupt input
30	G1	O	Grid output
31	G2		
32	G3		
33	G4		
34	G5		
35	G6		
36	G7		
37	G8		
38	G9		
39	G10		
40	G11		
41	G12		
42	G13		
43	G14		
44	G15		
45	S1	O	Segment 1 output
46	VDD	–	Power supply
47	S2/D5597	I/O	Segment 2 output/SW7 input
48	S3/D5598		Segment 3 output/SW6 input
49	S4/D5595		Segment 4 output/SW5 input
50	S5/D5594		Segment 5 output/SW4 input

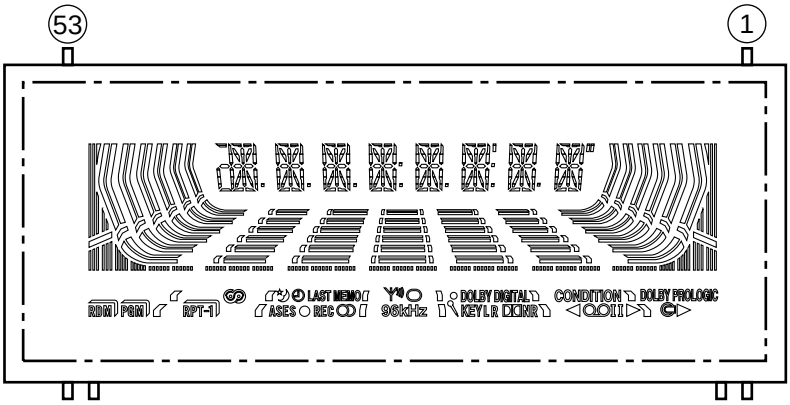
No.	Pin Name	I/O	Function
51	VFDP	–	
52	S6/D5593	I/O	Segment 6 output/SW3 input
53	S7/D5592		Segment 7 output/SW2 input
54	S8/D5591		Segment 8 output/SW1 input
55	S9	O	Segment 9 output
56	S10/CLAMP	I/O	Segment 10 output/CD CLAMP SW input
57	S11/OPEN		Segment 11 output/CD OPEN SW input
58	S12/INSIDE		Segment 12 output/CD INSIDE SW input
59	S13/CDISC123		Segment 13 output/CD DISC 123 SW input
60	S14/ARF		Segment 14 output/DECK ARF SW input
61	S15/ARR		Segment 15 output/DECK ARR SW input
62	S16/MODE1		Segment 16 output/DECK MODE SW1 input
63	S17/MODE2		Segment 17 output/DECK MODE SW2 input
64	S18/HALF1		Segment 18 output/DECK HALF SW1 input
65	S19/HALF2		Segment 19 output/DECK HALF SW2 input
66	S20/CrO2_1		Segment 20 output/DECK CrO2 SW1 input
67	S21/CrO2_2		Segment 21 output/DECK CrO2 SW2 input
68	S22	O	Segment 22 output
69	S23		Segment 23 output
70	S24		Segment 24 output
71	RDSDATA	I	Tuner RDS data input
72	VDD	–	Power supply
73	SOL2	O	DECK solenoid output 2
74	SOL1		DECK solenoid output 1
75	MOTOR	O	DECK motor output
76	CD LOAD IN	I	CD loading motor input (pull-down)
77	CD LOAD OUT	O	CD loading motor output (pull-down)
78	LED DISC3	O	DISC 3 LED output
79	LED DISC2		DISC 2 LED output
80	LED DISC1		DISC 1 LED output
81	REEL1	I	DECK reel pulse input 1
82	REEL2		DECK reel pulse input 2
83	–	–	
84	RDS MUTE	O	Mute output of Tuner RDS (pull-down)
85	PLL CE	O	Chip enable output of Tuner PLL
86	EVOL CE	O	Chip enable output of electronic volume IC
87	POWER	O	Power output
88	LINE MUTE	O	Line mute output
89	VSS	–	Ground
90	VDD	–	Power supply
91	EXP CLK	O	Clock output for EXP IC
92	EXP DATA	O	Data output for EXP IC
93	EXP CE	O	Chip enable output of EXP IC (BU4094BCF)
94	SCAN ON	O	Outputs for SW reading
95	CD SHUT	O	Crystal ON/OFF of the CD decoder
96	SQSO	I	CD subcode data input
97	CD SQCK	O	Clock output for CD subcode data
98	SYSDATA	O	Data output of the Tuner PLL data/electronic volume IC
99	TXDATA	I	Tuner data input
100	SYSCLK	O	Clock output of the Tuner PLL data/electronic volume IC

7.2.2 DISPLAY

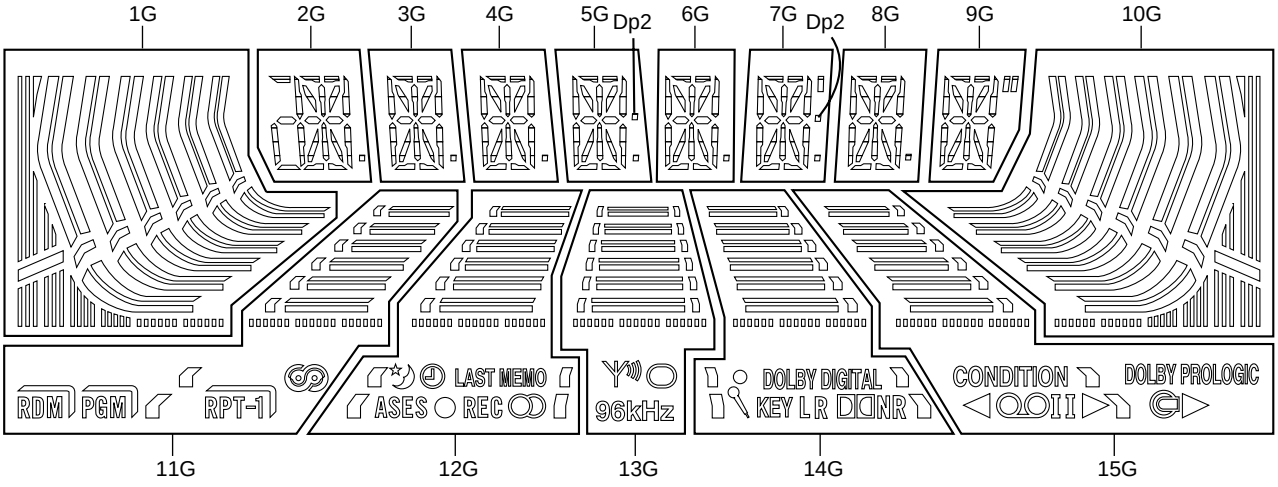
■ XAV3009 (DISPLAY ASSY :V5621)

- **FL Display**

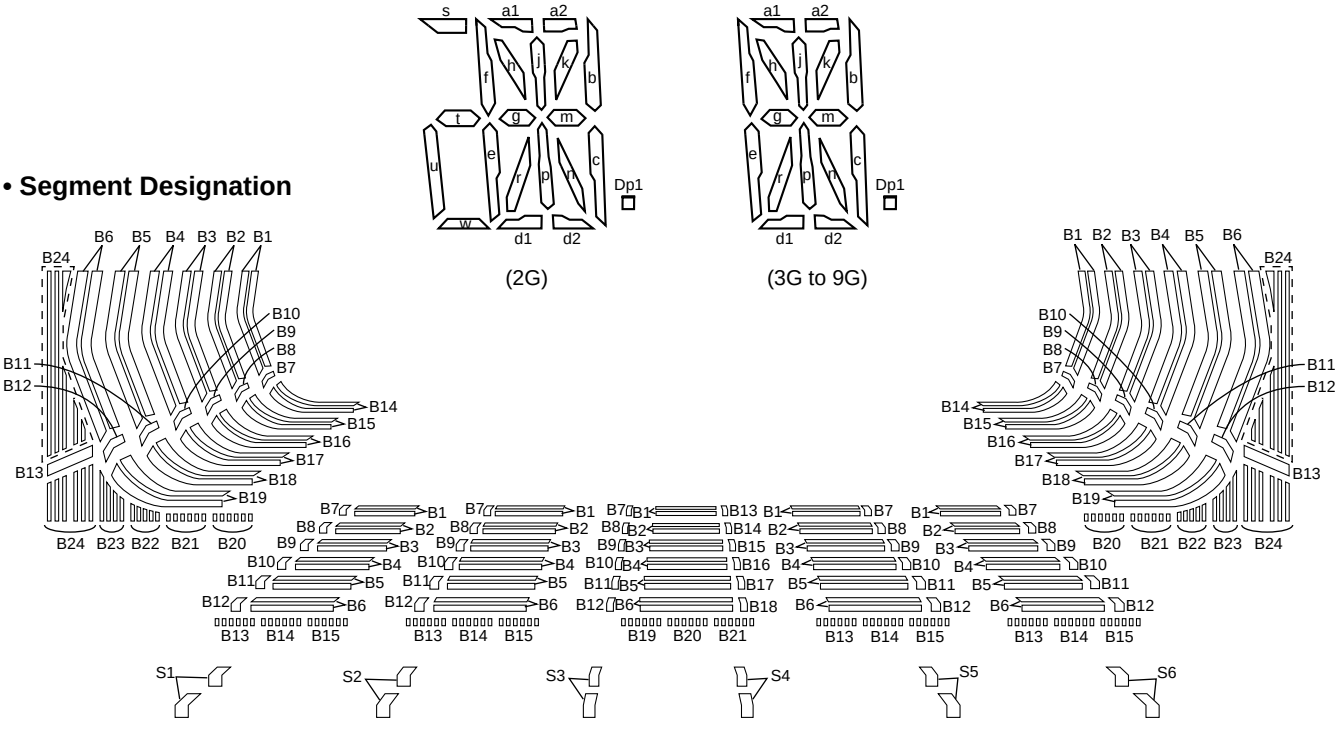
• Pin Assignment



• Grid Assignment



• Segment Designation



(1G, 10G to 15G)

• Pin Connection

Pin No.	53	52	51	50	49	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27
Connection	F2	F2	F2	NP	NP	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	11G	12G	13G	14G	15G	P1	P2	P3	P4	P5	P6	P7
Pin No.	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
Connection	P8	P9	P10	P11	P12	P13	P14	P15	P16	P17	P18	P19	P20	P21	P22	P23	P24	NX	NX	NX	NX	NP	NP	F1	F1	F1	

NOTE 1) F1, F2..... Filament
2) NP..... No pin
3) NX..... No extend pin
4) DL..... Datum Line
5) 1G to 15G..... Grid
6) Field of vision is a minimum of 29° from the lower side.

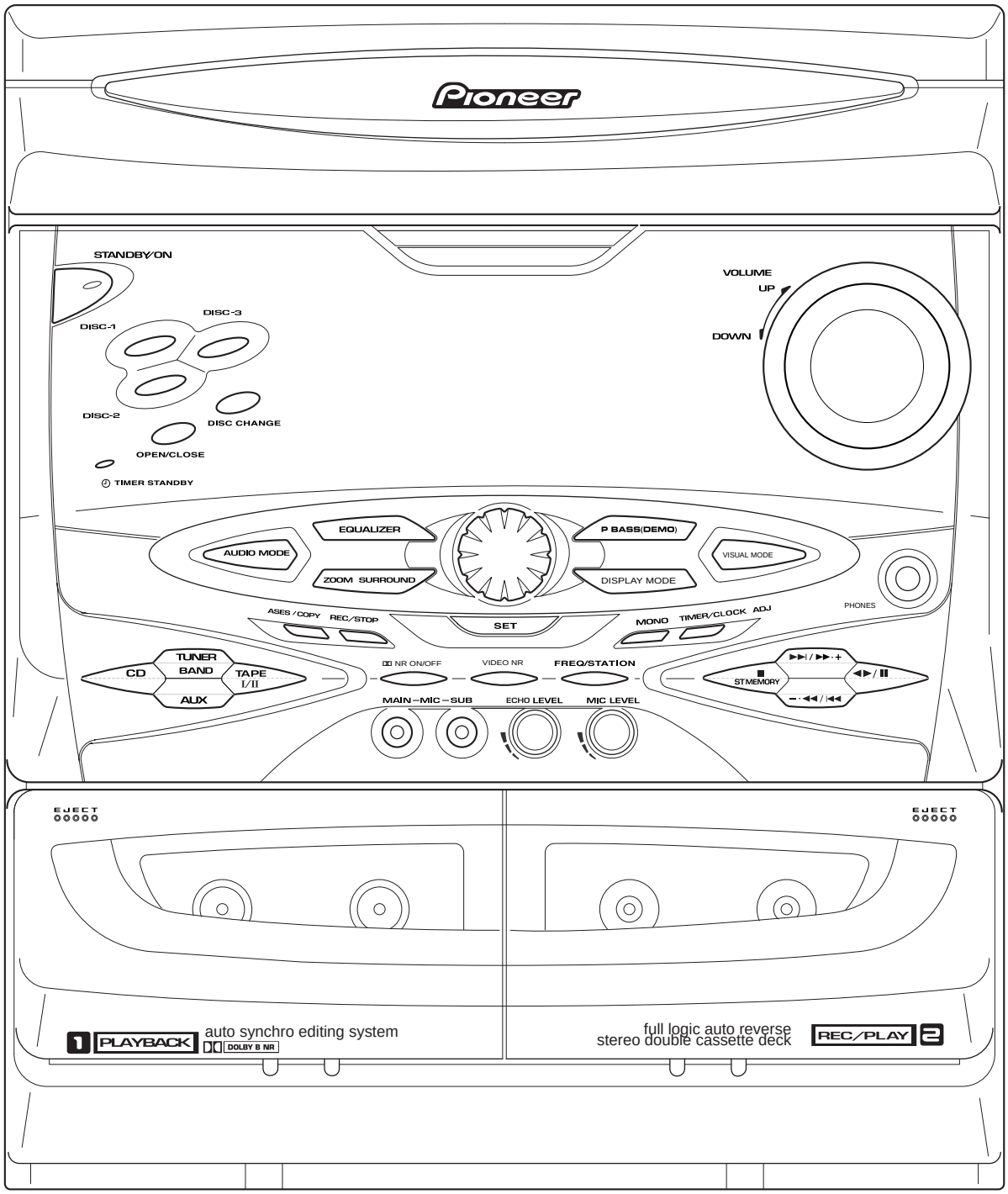
• Anode Connection

	1G	2G	3G,4G	5G	6G	7G	8G	9G	10G	11G	12G	13G	14G	15G
P1	B24	—	—	—	—	—	—	—	B24	RDM	S2	96kHz	S4	▷(RIGHT)
P2	B23	a1	a1	a1	a1	a1	a1	a1	B23		ASES			
P3	B22	a2	a2	a2	a2	a2	a2	a2	B22	PGM	○		KEY	S6
P4	B21	h	h	h	h	h	h	h	B21		REC	B21	L	▷ (LEFT)
P5	B19	j	j	j	j	j	j	j	B19	RPT	S3	B19	R	
P6	B17	k	k	k	k	k	k	k	B17			B17	DCNR	DOLBY PROLOGIC
P7	B15	b	b	b	b	b	b	b	B15	B15	B15	B15	B15	B15
P8	B14	f	f	f	f	f	f	f	B14	B14	B14	B14	B14	B14
P9	B13	g	g	g	g	g	g	g	B13	B13	B13	B13	B13	B13
P10	B6	m	m	m	m	m	m	m	B6	B6	B6	B6	B6	B6
P11	B11	c	c	c	c	c	c	c	B11	B11	B11	B11	B11	B11
P12	B10	e	e	e	e	e	e	e	B10	B10	B10	B10	B10	B10
P13	B4	r	r	r	r	r	r	r	B4	B4	B4	B4	B4	B4
P14	B9	p	p	p	p	p	p	p	B9	B9	B9	B9	B9	B9
P15	B8	n	n	n	n	n	n	n	B8	B8	B8	B8	B8	B8
P16	B2	d1	d1	d1	d1	d1	d1	d1	B2	B2	B2	B2	B2	B2
P17	B3	d2	d2	d2	d2	d2	d2	d2	B3	B3	B3	B3	B3	B3
P18	B12	dp1	dp1	dp1	dp1	dp1	dp1	—	B12	B12	B12	B12	B12	B12
P19	B18	—	—	dp2	—	dp2	—	—	B18	-1		B18	DOLBY DIGITAL	◁
P20	B20	—	—	—	—		—		B20	S1		B20	○	
P21	B16	s	—	—	—	—	—	—	B16		LAST MEMO	B16	S5	CONDITION
P22	B5	t	—	—	—	—	—	—	B5	B5	B5	B5	B5	B5
P23	B1	u	—	—	—	—	—	—	B1	B1	B1	B1	B1	B1
P24	B7	w	—	—	—	—	—	—	B7	B7	B7	B7	B7	B7

8. PANEL FACILITIES AND SPECIFICATIONS

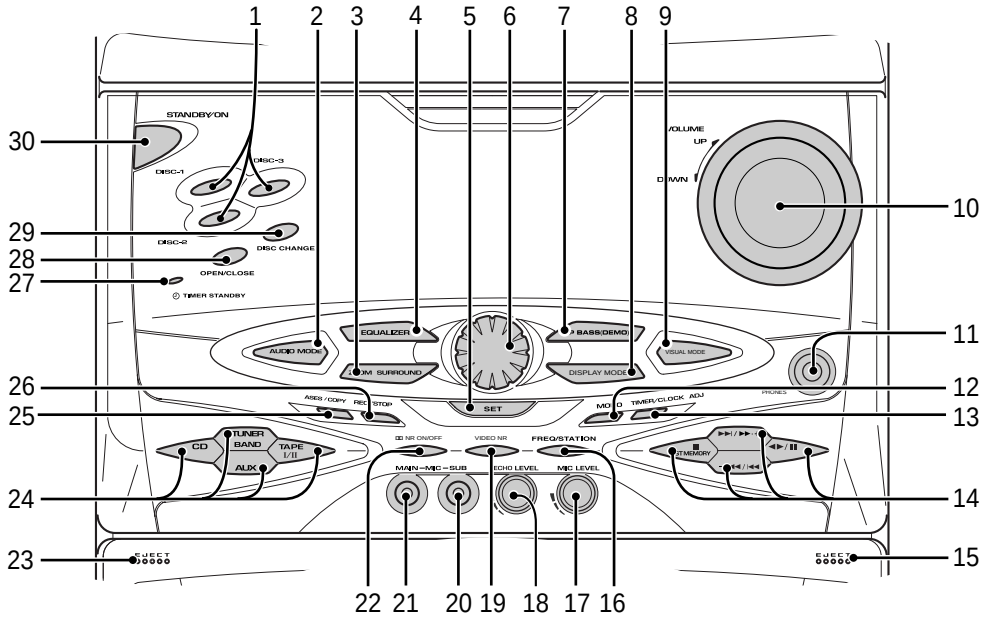
8.1 PANEL FACILITIES

Front Panel



Front panel

The illustration on this page shows the XR-VS90/ XR-VS90SW. Not all features are available on the XR-VS70/ XR-VS70SW.

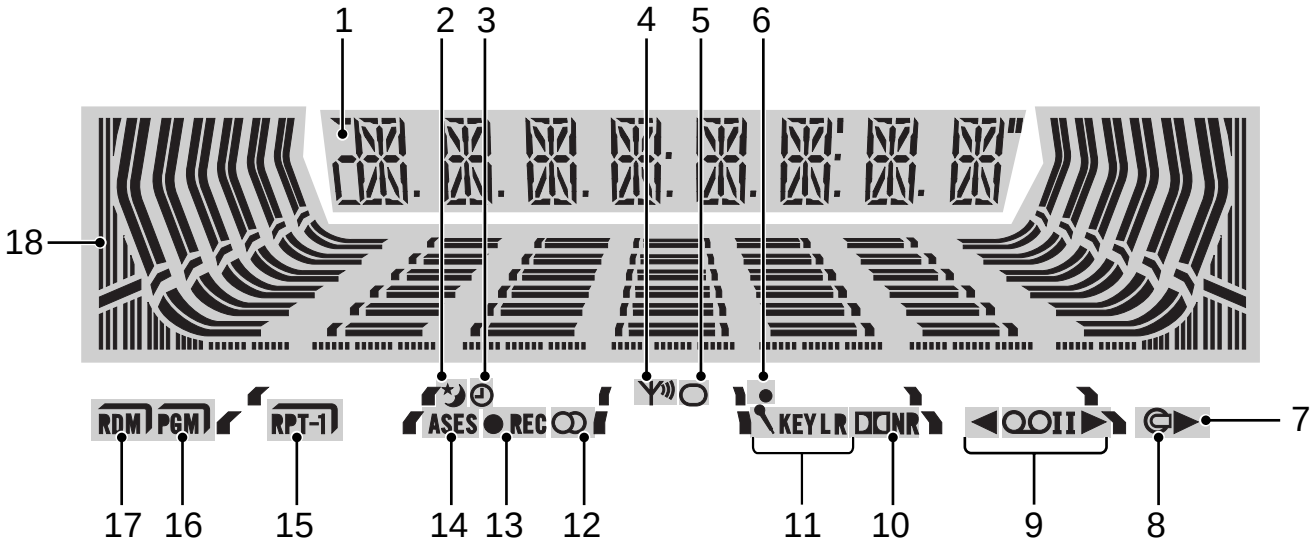


1 **DISC-1/2/3**
2 **AUDIO MODE**
3 **ZOOM SURROUND**
4 **EQUALIZER**
5 **SET**—Use to enter timer/clock settings, or user sound settings.
6 **JOG dial**—Use to morph between sound settings, and when setting the clock or timer.
7 **P.BASS (DEMO)**
8 **DISPLAY MODE**
9 **VISUAL MODE**
10 **VOLUME UP/DOWN**—Use to adjust the overall volume.
11 **PHONES jack (Headphones)**—Plug in a pair of headphones to this jack.
12 **MONO**
13 **TIMER / CLOCK ADJ**
14 **Playback/tuning controls**
■ ST. MEMORY
►►I/►►· +
–·◄◄/I◄◄
◄►/II
15 **EJECT (tape II)**—Press to open the cassette door of deck II.
16 **FREQ / STATION**
17 **MIC LEVEL**
18 **ECHO LEVEL**
19 **VIDEO NR**
20 **MIC SUB**
21 **MIC MAIN**
22 **□□ NR ON/OFF(XR-VS90/ XR-VS90SW)**
REPEAT (XR-VS70/ XR-VS70SW)
23 **EJECT (tape I)**—Press to open the cassette door of deck I.
24 **Function select buttons**
CD
TUNER/BAND
AUX
TAPE I/II
25 **ASES / COPY**
26 **REC / STOP**
27 **TIMER STANDBY indicator**
28 **OPEN/CLOSE**
29 **DISC CHANGE**
30 **STANDBY/ON and standby indicator**—Press to switch the unit between standby and on. Indicator lights in standby.

* Manufactured under licence from Dolby Laboratories. “Dolby” and the double-D symbol are trademarks of Dolby Laboratories.

Display

The illustration on this page shows the XR-VS90/ XR-VS90SW. Not all features are available on the XR-VS70/ XR-VS70SW.



1 Character display
2 Lights when the sleep timer has been set.
3 Lights when either the record timer or the wake up timer has been set.
4 Lights during broadcast station reception.
5 Lights when the tuner is set to mono FM mode.
6 Lights when in beat cut 2 mode.
7 Lights when a CD/Video CD is playing.
8 Lights when the system is in CD/Video CD mode.
9 **◄ and ►** – Indicates the current tape play/record direction.
I or II – Indicates the current tape deck, I or II.
10 Lights when Dolby Noise Reduction is switched on.
11 – Lights when in one of the karaoke modes.
KEY –Lights when the pitch of the karaoke track playing has been changed.
L R – Indicates which channels of the karaoke track you're hearing.
12 Lights when the tuner is receiving a stereo FM broadcast in auto stereo mode.
13 Lights when recording to tape.
14 Lights during automatic recording of a CD.
15 Highlights during repeat play mode.
16 Highlights during program playback mode.
17 Highlights during random playback mode.
18 Sound morphing / Sound level display

Remote control

To learn about the function of a particular button, look up the name of the button in the following alphabetical list (buttons marked with symbols appear first).

⏻
Press to switch the system on or into standby.

■ (Stop)

◄► (Play/pause/reverse)

◄◄ (Reverse scan/fast rewind/radio tuning)

►► (Forward scan/fast forward/radio tuning)

– ⏮ (Reverse track skip/music search/preset station select)

►►⏭ **+** (Forward track skip/music search/preset station select)

>10
Use to select numbers over 10 (press this button, then input the number using the other number buttons).

10/0
Use as zero or 10 when entering numbers (for track numbers and station presets).

1–9
Number buttons (for track numbers and station presets).

A AUDIO/VISUAL
AUX

C CD
CLEAR
Press to clear the most recently programmed track.

D DIGEST (SHIFT & 6)
DISC-1/2/3
DISC CHANGE
DISPLAY (SHIFT & >10)

J JOG
Use to morph between sound settings, and when setting the clock or timer.

K KARAOKE
KEY CONTROL

L LAST MEMO (SHIFT & 5)

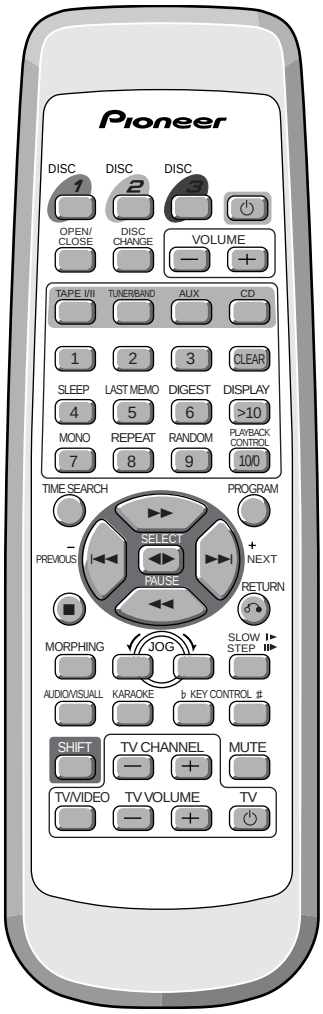
M MONO (SHIFT & 7)
MORPHING
MUTE

N NEXT +

O OPEN/CLOSE

P PLAYBACK CONTROL (SHIFT & 10/0)
PREVIOUS –
PROGRAM

R RANDOM (SHIFT & 9)
REPEAT (SHIFT & 8)
RETURN



S SELECT
SHIFT
Use to access secondary functions on the remote control.
SLEEP (SHIFT & 4)
SLOW ⏯► (SHIFT & STEP ⏯►)
STEP ⏯►

T TAPE I/II
TIME SEARCH
TUNER/BAND
TV ⏻
TV CHANNEL +/–
TV VOLUME +/–
TV/VIDEO

V VOLUME +/–
Use to adjust the overall volume level.

8.2 SPECIFICATIONS

Amplifier section

Continuous Power Output

RMS (1 kHz, T.H.D. 10%, 6 Ω)
- XR-VS90/ XR-VS90SW
  - Front, Rear R, L (RMS) ..... 140 W per channel
- XR-VS70/ XR-VS70SW
  - Front, Rear R, L (RMS) ..... 100 W per channel

Peak Music Power Output
- XR-VS90/ XR-VS90SW ..... 3500 W
- XR-VS70/ XR-VS70SW ..... 2500 W

CD section

Type . Video CD system and Compact Disc digital audio system
Wow and Flutter ..... Limit of measurement (±0.001 % W.PEAK) or less (EIAJ)

Cassette deck section

Systems ..... 4 track, 2-channel stereo
Heads ..... Recording/playback head x 1
Playback head x 1
Erase head x 1
Motor ..... DC servo motor x 1
Tape types ..... TYPE I (Normal) tape (XR-VS70/ XR-VS70SW)
TYPE I (Normal)/TYPE II (HIGH/CrO2) tape (XR-VS90/ XR-VS90SW)

FM tuner section

FrequencyRange ..... 87.5 MHz to 108 MHz
Antenna input ..... 75 Ω unbalances

AM tuner section

Frequency Range ..... 531 kHz to 1,602 kHz
Antenna input ..... Loop antenna

Miscellaneous

Power Requirements
..... AC 110-127 V/220-230 V/240 V (switchable), 50/60 Hz
Power Consumption
- XR-VS90 ..... 175 W
- XR-VS90SW ..... 830 W
- XR-VS70 ..... 140 W
- XR-VS70SW ..... 580 W

Power Consumption in Standby mode ..... 1 W
Dimensions ..... 270 (W) x 320 (D) x 339 (D) mm
Weight (without package)
- XR-VS90/ XR-VS90SW ..... 8.8 kg
- XR-VS70/ XR-VS70SW ..... 8.3 kg

Accessories

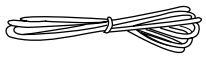
Operating instructions 1
Remote control unit 1
Size AA/R6P dry cell batteries 2
FM antenna 1
AM loop antenna 1
AM wire antenna 1
Power Cord 1
Video Cord 1

• Specifications and design subject to possible modification without notice, due to improvements.

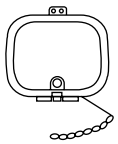
■ Accessories

① Remote Control Unit × 1
(XZN3107)

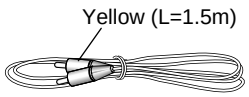
② FM Antenna × 1
(ADH7004)



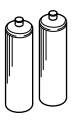
③ AM Loop Antenna × 1
(XTB3001)



⑥ Video Cord × 1
(VDE1034)



④ AA/R6P
Dry Cell Batteries × 2
(VEM-013)



⑤ Power Cord × 1
(ADG1158: DBDXJ type)
(ADG1154: DLXJ/NC and DXJN/NC types)

⑦ AM wire Antenna × 1
(AHD7006: DBDXJ type only)